Evaluation of Intensive Agricultural District Programme as Implemented in Aligarh District, Uttar Pradesh

THESIS SUBMITTED FOR THE AWARD OF THE
DEGREE OF DOCTOR OF PHILOSOPHY
IN ECONOMICS

By
S. Ahmed Aziz

Department of Economics
Aligarh Muslim University, Aligarh

1970

DEPARTMENT OF ECONOMICS

ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

November 28, 1977.

This is to certify that Mr. S. Khalid Aziz has worked under my supervision. His work is original and worth submitting for the award of the degree of Doctor of Philosophy in Economics.

(A.A. Siddiqi)
Supervisor

C O N T E N T S

Preface.

The present study on the 'Evaluation of the Intensive Agricultural District Programme as Implemented in Aligarh District, Uttar Pradesh' was undertaken with the objective of assessing the impact of the IADP in Aligarh. In the following chapters an attempt has been made to evaluate the functioning of the Programme during the period 1961-62 to 1966-67. IADP or Package Programme was started in 1961-62 initially for a period of five years with the objective of achieving a rapid increase in agricultural production, especially foodgrains, through an integrated and intensive use of improved agricultural techniques and providing sufficient production incentives to the cultivators. Aligarh district was selected because it possessed a maximum of irrigation facilities and a minimum of natural hazards.

The Programme has been evaluated with reference to the preliminary arrangements, establishment of institutions, supply of inputs and their utilization and effect on agricultural production. In the first chapter Programme's basic principles and selection of the districts on the pattern suggested by the Ford Foundation Experts and necessary components of the Programme have been discussed. The second chapter relates to the study of Land Reforms in Uttar Pradesh and its impact on the cultivators of Aligarh

district. In the third chapter, process of farm production planning and its application in the district has been arranged. The fourth chapter of the study is related with the Performance of the Co-operative Societies in the district. The fifth chapter is concerned with the Scientific Demonstration and the sixth is with other allied activities, i.e., Livestock Development, Irrigation Facilities and the Impact of the Programme. The seventh chapter is on Conclusion and suggestions that emerge on the basis of the study.

Excluding the Introductory chapter, emphasis is given on the results of the Sample enquiry of 720 cultivators in 60 villages of 4 of the 17 blocks of the district, in each chapter. The sample survey of the selected villages was conducted to see the impact of the Programme on the cultivators under the three acreage-groups deriving benefits from this approach. The Study is also based on a critical examination of the reports published by the Project Office, Aligarh and Ministry of Food and Agriculture.

The study of the Package Programme shows that in all the package districts including Aligarh the tenent-cultivators are still not in a position to draw benefits in respect of the facilities provided by the package staff. The trend of land reforms has not also been such as to inspire confidence in the minds of the cultivators. The

system of share-cropping is still very common and no entry of these tenants is found anywhere in the land records. On the other hand, the implementation of farm production plans is achieved much less than was expected. The farm plans are prepared by the village level workers but little efforts are made to supplies of inputs according to the plan.

In the field of credit and the supply of inputs through the Co-operatives, it is noticed that as far as the demand aspect is concerned, the cultivators have shown an inclination to obtain these facilities but the supplies have fallen short of demand. The Co-operatives could not reach the desired goal, partly because the Credit Societies are not functioning well from the point of view of distribution of credit and inputs to all the cultivators as directed in the farm production plans and partly because the staff is lacking in initiative and drive. Quite a large number of cultivators borrow money from the traditional money-lenders and other non-institutional sources.

The study of the cultivators in respect of the benefits drawing out of the Scientific Demonstration shows that a good number of cultivators are interested to adopt modern techniques of agricultural production through these demonstrations but they are helpless when the question of obtaining the requisites arises. The village level workers

have instructions to induce the cultivators to visit the site of the demonstrations and convince them to follow the techniques to increase agricultural production. But it was noticed that very few cultivators got this opportunity. A majority of cultivators in the lowest acreage-group were neglected at the time of demonstration and, instead, the cultivators in the highest acreage-group were encouraged to attend them.

The other related activities considered in this respect are the facilities of improvement of livestock and means of irrigation. Not much attention was paid to this side.

The study of the sources of irrigation made available revealed the fact that the cultivators not depending on rain are of a very small number and whatever the facilities for the purchase of water-pumps and the operation of tube-wells are available, are only to the resourceful. As without proper means of irrigation, no efforts of any type, either the use of fertilizer or the improved seeds, will be helpful to speed up the rate of growth in agricultural production, Therefore, an important aspect of the Programme has remained neglected.

All the aforesaid aspects studied are to be dealt with promptness and a keen interest is required by the

staff involved in the Programme. Partiality towards large farmers also has been noticed. The Package Programme has gained wide publicity but it has failed as much remains to be achieved to attain a more rapid rate of development at the district level. The development lies mainly on four fronts: (a) providing a better overall economic atmosphere to encourage the cultivators; (b) strengthening and stabilising the personnel situation and rationalisation of input distribution and credit disbursement procedures; (c) provision of increased supplies of inputs; and (d) popularisation of high-yielding varieties of all the important crops. Having improved the Programme on the above fronts, it is expected the rate of growth can be accelerated. Therefore, a significant conclusion of the thesis is that the real impact of the IADP is likely to take a long time than was originally contemplated.

Gratitude is due to Professor Mohammad Shabbir Khan Head of the Department of Economics, Aligarh Muslim University, Aligarh, who has contantly been advising and helping me in innumerable ways, in taking up this work and executing it. I, therefore, take this opportunity of expressing my gratitude to him for all his sympathies, encouragement and never failing co-operation, though I am aware that no acknowledgement can adequately express how indebted I really am to him.

I owe special gratitude to Dr.A.A.Siddiqi,Reader, Department of Economics and my guide, for invaluable advice, both academic and friendly. It would not have been possible for me to complete my Thesis without his guidance and help. I know not how to express my feelings for his benevolent, sincere and scholarly advice, help and guidance.

I am also indebted to the staff of the Project Office, IADP,Aligarh, and the staff of the Ministry of Food and Agriculture, Directorate of Extension, New Delhi, who helped me showing the Government records and discussing with me many problems connected with the Thesis.

It will be very much unobliging If I do not pay thanks to Professor Q.H.Zaidi, Head of the Education Department, Dr. Haleem Khan, Reader and my friend, Mr. Khursheed Alam, who extended all the facilities and helped me a lot to get my thesis brought into final shape.

S. Ahmed Aziz.

C H A P T E R - I

I N T R O D U C T I O N

In the month of January, 1959 Government of India invited an Agricultural Production Team, which was sponsored by the Ford Foundation, to study the food production problems and the country's foodgrains' requirements, and to make suggestions for a systematic and co-ordinated approach to raise the production on a war footing. This Team submitted a report in April,1959, entitled "India's Food Crisis and Steps to Meet It". The Team gave emphasis on the gaps between the food production and the country's total requirements, which was increasing year by year, on the one hand, due to the traditional methods of cultivation and on the other, due to the rapid increase in population. It observed that both the producers and the policy makers must be aware of an impending food crisis, and steps must immediately be taken in this direction to meet the crisis.[1]

In view of the acute food shortage in the country, the Team considered that if the work is organised on an emergency basis, the problem can be solved. They were of

1.Report on IADP, by Expert Committee on Assessment and Evaluation, Ministry of Food and Agriculture,Govt. of India, 1961-63, Chap.I, p.1.

opinion that the increase in food production for self-sufficiency could not be realised unless an all-out emergency programme was launched and adequate resources were made available by according priority to agricultural production. In the words of the report, "Food enough should become a central objective in the crusade for the new India. This crusade involves more than Plans. It requires allocation of the necessary resources and hard work, zeal, enthusiasm and sacrifice on the part of all those who are engaged in it. Good planning is meaningless without adequate execution of the plans that are made. 'Business as usual' will not achieve the food production targets. The steps necessary to mobilize the Nation for action must be clearly outlined".[1]

Considering the situation the Team recommended certain steps which were to be taken to attain the desired goals of food production. One of the important recommendations of the Team, was that instead of spreading the developmental efforts on a uniform pattern throughout the agricultural field, intensive efforts for agricultural production should be undertaken with a combination of all the technological improvements and concentration of manpower and resources in the selected places where the optimum conditions for stepping up production exist, without at the same time affecting the normal efforts in other places. The following

---

1. Ibid, p.1

important considerations were before the members of the Team when the above recommendations were made:-[1]

(i) Although total agricultural production in the country has increased in recent years, the present rate of improvement in acre-yields cannot be depended upon; and there should be considerable intensification of technological improvement in growing crops;

(ii) In order to achieve rapid increases in production, improvements will have to be concentrated in areas which are most responsive and where the application of technological methods can result in greatest benefit. This would mean concentration of efforts particularly in irrigated areas;

(iii) Rapid increases in food production are possible if the known improvements are adopted in effective combinations. A few improved practices can be effective if adopted singly, but the full benefit from most improvements can be attained only if they are applied in combinations suitable for specific soil and climatic conditions. Sufficient fertilizers, improved seeds, pesticides, proper soil and water management practices can be fully effective only if applied in combination with each other.

---

1. Ibid, p.2.

The above recommendations of the Team were considered by a high-level Inter-Ministries Committee of the Government of India in June,1959[1] and were accepted in principle. The Committee agreed that for the sake of increasing agricultural production at the earliest, pilot projects should be initiated in selected districts having favourable conditions for stepping up food production.

A second Team of agricultural experts, sponsored by the Ford Foundation[2], visited the country in October, 1959 to give a precise shape to the recommendations made earlier and getting if finalised. This Team conducted a rapid survey of few selected areas in different States and after consultation with the experts of the Central and State Governments, endued this Programme for an intensive and coordinated approach to food production. The following four points were the basic element of this developed programme which has been mentioned in their "Suggestions for a 10-point Pilot Programme to Increase Food Production".[3]

(i) Determining how rapid increases in food production could be achieved so as to provide experience for adoption in other areas;

(ii) Increasing the income of the cultivator and his family;

---

1. Ibid, p.2.
2. Ibid, p.2.
3. Ibid,1960-65,Chap.I,p.2.

(iii) helping to improve the economic resources of the village; and

(iv) providing an adequate agricultural base for more rapid economic development and social betterment.

The gist of the Intensive Agricultural District Programme, which is popularly known as the "Package Programme" was the provision of adequate incentives and aids to cultivators to raise agricultural production through the intensive application of all the resources made available in the selected districts. It was envisaged to develop, directly with the cultivators in these selected districts, an improved farm production plan for every cultivator and support the plan with the maximum facilities so as to increase food production rapidly. These farm production plans were to provide a basis for extending credit for the purchase of the required fertilizers, pesticides and the other inputs needed to increase production. It has also been envisaged under the programme to give emphasis on village planning for increased production and strengthening of village leadership and village organisations such as Co-operatives and Panchayats.

The aim of the Programme was an integrated and intensified approach to the problem of agricultural production in areas more responsive to such production efforts.

As its immediate goal, the programme seeks to achieve rapid increase in the level of food production through a concentration of financial, technical, extension and administrative resources. In the long run, the Programme attempts a break-through in production and a continuous rise in productivity. It is also intended to demonstrate the most effective way of increasing production and thus serve as a model district for extending concentrated and intensified efforts towards increase in food production to other areas.

The means through which production increases were sought to be achieved under the Programme included many of the known methods and practices. What was new in the Programme was the collective application of all these in optimum doses, backed by adequate technical guidance and financial resources needed for productive purposes. It was hoped that cultivators, through farm planning and educative extension activities, would more rapidly adopt improved production practices and carry out their farm operations along more progressive lines. Farm planning thus was intended to serve as an educational effort to acquaint cultivators with new technology and assist them to shift from traditional patterns of farming towards the more progressive business approach of a systematically organised and operated farm programme.

The Package Programme was to be carried out for a period of about five years. It normally covered all the food crops including important cash crops grown in the district, although emphasis was laid on the major foodgrain crops such as paddy, wheat, maize, millets etc. In addition, the Programme included development of other related activities, i.e., poultry farming, fisheries development and animal husbandry programme, which could be profitably taken up in the selected areas. These activities are ancillary to agricultural production and designed to be an integral part of the scheme.

The Programme would enhance agricultural production by involving the cultivators to adopt a "package of improved practices",[1] such as, improved seeds, fertilizers, pesticides, improved implements, proper soil and water managements, etc., and by providing a "package of services" [2] consisting of competent technical staff, availability of credit and production supplies, land and water improvement, adequate research information for basing extension recommendations thereon, storage and marketing and price assurance which will enable the cultivator to adopt scientific methods of farming. The Programme consists the following:-"[3]

i) adequate and timely supply of credit based on the production plans and made available through strengthened co-operative societies;

---

1. Ibid, 1960-65,Chap.I,p.2.
2. Ibid, p.2.
3. Op.Cit..1961-63, Chap.I,p.3.

ii) adequate and timely supply of production requisites, such as fertilizers, pesticides, implements, etc., to be channelled mainly through co-operatives;

iii) arrangements for marketing and other services through co-operatives so as to enable the cultivators to obtain full market price for their marketable surplus;

iv) adequate storage facilities for supplies, such as seeds, fertilizers, implements and pesticides and for the farm produce, so that the cultivators do not have to travel long distances to procure supplies and market their produce;

v) intensive educational efforts, particularly through scientific demonstrations, for dissemination of improved agricultural practices, through existing and additional trained staff who will also be concerned with the operation and "follow-up" of production plans;

vi) strengthening transport arrangements to ensure mobility of supplies and staff;

vii) village planning for increased production, including livestock improvement programmes and strengthening of village organizations like co-operatives and panchayats, the primary emphasis being on the production of rice, wheat and other major food crops;

viii) analysis and evaluation of the programme from its initiation to its completion;

ix) establishment of agricultural implements workshops, seed and soil-testing laboratories and implementa-

tion of local works programmes having a direct bearing on production increase.

Implementation of the Programme:

The implementation of the intensive agricultural district programme involved two broad stages.[1] The first is called a 'preparatory stage' during which the following items of work were to be undertaken:-

i) selection of areas within the district for implementating the Programme;

ii) creating a general awareness among the farmers and non-official agencies such as panchayats and co-operatives and securing their participation;

iii) strengthening of co-operative institutions in the areas selected for coverage;

iv) selection, appointment and posting of additional staff;

v) training of staff;

vi) organisation of a resource and production benchmark survey;

vii) assessment of the supplies needed;

viii) construction and or hiring of storage godowns with a view to bring the supplies within easy reach of the farmers; and

ix) strengthening of transport arrangements.

It was only after the completion of these preparatory

Ibid, 1961-63,Chap.I,p.5.

measures that the Programme could enter in the second stage[1], i.e., one of operation and execution. The activities to be performed at this stage were to be as follows:-

i) preparation and follow-up of farm and village production plans;

ii) adequate and timely supply of credit based on production plans;

iii) adequate and timely supply of production requisites, such as seeds, fertilizers, pesticides, implements etc., to be channelled primarily through co-operatives;

iv) intensification of information and extension education activities, such as demonstration and use of other information media;

v) arrangements for marketing and other services through co-operatives; and

vi) analysis and evaluation of the programme.

An outline of the scheme for the intensive agricultural district programme was drawn up and forwarded to the State Governments in October,1959.[2] It was indicated in the scheme that the Ford Foundation was willing to render financial as well as technical assistance for the implementation of the pilot project, provided it was taken up in one selected district in each of a group of seven States, of which four would be predominantly rice-growing, two

1. Ibid, p.6.
2. Ibid, p.6.

wheat-growing and one millet growing. The States selected for the purpose were Andhra Pradesh, Bihar, Madhya Pradesh and Madras in the first category, (rice growing), Punjab and Uttar Pradesh in the second (wheat growing), and Rajasthan in the third category (millets growing). The outline scheme was considered at a meeting of the Agriculture Secretaries of the above-mentioned States, held on the 27th October,1959[1], in New Delhi and was generally accepted for implementation.

Basic Conditions for the Selection of the District:

The agricultural experts were of the opinion that in each of the above mentioned States, the State Government would select a district which would fulfill the conditions summarized below:-

i) the district should, as far as possible, have assured water supply;

ii) it should have a minimum of natural hazards, i.e., there should not be problems requiring long-term attention, such as, susceptibility to floods, drainage problems, acute soil conservation problems, etc.,

iii) it should, as far as possible, have well-developed village institutions like co-operatives and panchayats; and iv) it should have maximum potentialities for increasing agricultural production within a comparatively shorter period.

1. Ibid.p.6.

It was also considered necessary that the State governments would draw up a suitable Programme with reference to the selected districts keeping in view the local conditions and would also proceed with the preliminary arrangements in anticipation of the formal approval of the Government of India.

The Central Government gave their final approval for the implementation of the Programme primarily in the seven selected districts on 11th June,1960.[1]

The approval was followed by the signing of a Memorandum of Agreement between the Government of India and the Ford Foundation on 18th June,1960[2]. The agreement set forth the undertakings of the parties involved in the Programme, i.e., Ford Foundation, The Government of India and the participating State Governments. After the signing of the agreement, the formal approval of the Government of India to the Programme was conveyed to the concerned State Governments. They were requested to intensify the work on the various preparatory measures, particularly the strengthening of the co-operative movement in the districts, so that these could be completed quickly and the Programme launched as early as possible.

After getting the final sanction of the Programme, the State Governments implemented the Package Programme in

---

1. Ibid, p.7.
2. Ibid, p.7.

the following seven districts from the period given noted against each district:-

1. Madras	- Thanjavur	-	Kharif 1960-61
2. Andhra Pradesh	- West Godavari	-	Rabi 1960-61
3. Bihar	- Shahabad	-	Rabi 1960-61
4. Madhya Pradesh	- Raipur	-	Kharif 1961-62
5. Uttar Pradesh	- Aligarh	-	Kharif 1961-62
6. Punjab	- Ludhiana	-	Kharif 1961
7. Rajasthan	- Pali	-	Kharif 1961

The districts mentioned above were ultimately delimited into 140 development blocks, having a total number of 14,038 villages and a total gross cropped area of about 45 lakh hectares.[1] According to the agreement entered into with the Ford Foundation, its financial participation in the Programme would be limited only to 100 blocks, although the Programme ultimately covered the entire districts.

However, approving the scheme for these seven districts, they suggested that the scheme would be implemented in one district in each of the fifteen States of the country and that all the States should be treated alike in regard to help from the Government of India. They also stressed the need for repeating the Programme in other areas of the country.

The Intensive Agricultural District Programme in

1. Ibid, p.7.

the first seven districts was started on a pilot basis. Later on, it was considered to extend the coverage of the Programme in the remaining States. Therefore, the following districts were selected by the concerned States in consultation with the Government of India and the Programme was implemented in the districts from the year noted against each other:-

1. Kerala	- Alleppy and Palghat	- Kharif	1962-63
2. Mysore	- Mandya	- Kharif	1962-63
3. Gujrat	- Surat	- Kharif	1962-63
4. Orrisa	- Sambalpur	- Kharif	1962-63
5. West Bengal	- Burdwan	- Rabi	1962-63
6. Maharashtra	- Bhandara	- Kharif	1963-64
7. Assam	- Cachhar	- January	1963
8. Kashmir	- Six Blocks in Jammu and Anantnag.		

In the above noted districts, the rice is the principal crop. The district of Mandya has sizeable area under ragi and sugarcane. In the district of Surat, jowar and cotton occupy considerable area[1].

Within the district, the extent of coverage of the Programme was determined largely by such factors as the preparedness of the village institutions, especially co-operatives, to shoulder the increased responsibilities involved in the Programme and the general awareness of the

1. Ibid,1960-65,p.5.

and response from the cultivators. In the very nature of the prevailing conditions, the coverage of the Programme was slow during the initial stages.

Financial Provision for the Package Programme:

The expenditure to be incurred on different items of the Package Programme has been shared between the different parties in the following way[1]-

(i) Ford Foundation:-

50 per cent of the cost on additional staff and full cost on the following items:-

(a) Transport, (b) Scientific Demonstration, (b) Agricultural Workshops, (d) Survey and Evaluation, (e) Training of Staff in Farm Management, (f) Seed Treatment and Soil Testing Laboratories.

(ii) Government of India:-

50 per cent of the cost on additional staff during 1960-61 and 25 per cent in the remaining four years. Full cost on provision of guarantees to co-operatives for advancing additional loans.

(iii) State Governments:-

25 per cent of the cost on additional staff from 1961-62 onwards and full cost on the following:-

(a) Demonstration Equipments
(b) Local Works Programmes

---

1. Report on IADP, Project Office, Aligarh, U.P., 1961-64, Chap. I, p.3.4.

The entire short-term credit and a portion of the medium-term loan will have to be provided by the Co-operatives with the help of the Reserve Bank of India and for this purpose it will be necessary for the State Government to create necessary climate for stimulating the flow of agricultural credit on the basis indicated by the Reserve Bank of India.

In the first seven districts, the total non-loan expenditure (excluding short and medium-term credit) on the Programme was approximately Rs.7.77 crores over a period of five years.[1] According to the basis of sharing of cost, the contributions of the Ford Foundation and the Government of India worked out to Rs.4.40 crores and Rs.0.60 crores, respectively. The total share of the concerned State Governments worked out to Rs.2.77 crores.

The Ford Foundation, in order to meet their share of expenditure on the Programme, sanctioned two grants to the Government of India amounting to $ 2.34 million (Rs.1.11 crores) and $ 6.925 million (Rs.3.29 crores).[2] The first grant was utilised for purchase and maintenance of transport equipment, for the establishment of Soil-testing Laboratories and for undertaking Quality Seed Programme (production and distribution of improved seeds) in the first seven districts.

---

1. Op.Cit.,1961-63,Chap.VIII,p.45.
2. Ibid.p.46.

Out of the second grant of $ 6.925 million, an amount of $ 5.70 million was spent on import of nitrogenous fertilizers to meet the first two years' requirements of the first seven districts. The balance amount of foreign exchange was utilised for import of insecticides and pesticides, power equipments for plant protection work etc. which were not locally available. The rupee proceeds from the sale of fertilizers imported with the Ford Foundation grant were utilised for meeting the Ford Foundation's share of expenditure on such items of the Programme as additional staff, training of staff, implements workshop, soil-testing laboratory, quality seed programme, scientific demonstrations and bench-mark and assessment surveys.

In the remaining 40 blocks of the first seven districts, the total non-loan expenditure on the Package Programme over the five year period was about Rs.2.00 crores, the bulk of which was borne by the Central Government according to the agreed terms[1].

The IADP was administered and executed by the State Governments as a centrally aided scheme. There are certain items [2] of the Programme on which the Centre incurred direct expenditure, i.e., (i) provision of nucleus staff at the Centre to handle the work connected with the Programme and to co-ordinate and provide overall direction and guidance to the project staff in the district; (ii) organisation of

1. Ibid, p.46.
2. Ibid, p.47.

central training courses for the personnel of the Package districts; (iii) procurement and supply of transport vehicles to the first seven States for adequate mobility of staff and movement of supplies; and (iv) provision of staff and equipment of the Centre to handle the work connected with the bench-mark surveys and assessment of the progress of the Programme from year to year. For these items, a provision of Rs.75.00 lacs was made in the Central Plan of the Ministry for the Third Five Year Plan period.

Besides this financial assistance, the Ford Foundation also rendered technical assistants[1] through a Team of subject-matter specialists or consultants. These consultants were located at New Delhi and assisted the Central and State Governments in planning, implementation and evaluation of the Programme. While the financial participation of the Ford Foundation was restricted only the first seven districts, their technical advice and assistance was available to all the selected districts. The entire cost of these consultants was met by them.

The Normal Complement of the Community Development Scheme:

In its objectives, contents and techniques, the Package Programme does not claim to be of a unique approach. It represents, more or less, a process of adoptation and growth from earlier programmes in the field of agriculture.

1. Ibid,p.48.

In most of its salient features and in its administrative set-up, the Programme has made use of the wider framework of the Community Development Programme.[1] The idea of unified approach to rural problems, the concept of agricultural extension service to function as an integral part of the rural administrative structure, the organisation of supporting services to render effective the production programmes of individual farmers, are all features common to both the Community Development and Intensive Agricultural District Programme. In fact, the locale of the Programme is confined to the Community Development blocks, and it is expected to function within the setting up of the Community Development Programme.

Therefore, the IADP has to be looked upon as bringing a larger volume of resources in knowledge, personnel, supplies and credit to the service of agriculture, supplementing and utilising fully the organization, institutions and services provided in the general Community Development and Panchayati Raj set up.

Works of Co-ordination Between the Centre and the States:

At the Centre, the role of the Government of India had been to provide the overall direction, guidance and co-ordination etc., whereas the responsibility of the implementation of the Programme rested with the State Governments.

---

1. Ibid, 1961-65,Chap.XVII,p.206.

For the purpose of co-ordination of efforts between the various departments and agencies, such as Agriculture, Co-operation, Panchayats, Irrigation, Revenue etc., the State Governments have set up Co-ordination Committees at State and district levels. In few places, the existing District Development Committee, Zila Parishads are performing this function. The Committees at State level are presided over by the Development Commissioner, Planning Secretary or any other senior officer. The Chairman of the Committee at district level is usually the Collector. These Committees, besides officials, also include representatives of the Reserve Bank of India, Co-operative institutions as the Apex and Central Banks and marketing societies.

In the case of co-ordination at the Centre, it is being carried over by an Inter-Ministries Working Group[1] which consists the representatives of the Department of Agriculture, Ministry of Community Development, Panchayati Raj and Co-operation, Ministry of Finance, Ministry of Irrigation and Power, Planning Commission and the Reserve Bank of India, under the overall Chairmanship of the Special Secretary, Department of Agriculture.

To co-ordinate the activities of various agencies involved effectively, the Committees at State level[2], viz., State Co-ordination Committee, District level, viz., District Project Implementation Committee, and at Block level, viz., Block

---

1. Op.Cit.,Project Office,Aligarh,Chap.I,p.15.
2. Ibid, Chap.III,p.4.

Development Committees review the work, progress and problems at periodical intervals. These Committees also approve the formulated plans of work for the year ahead. At the Co-operative Society level, Dekh Rekh Samati scrutinises the Farm Production Plans and assesses the credit requirements of the farmers.

In respect of the 'Package of Practices' and the Technical Programme' they are discussed and finalised after consultation with the Experts of the concerned State and the Government of India. These are also placed before the concerned officials and non-officials of the district at all levels for discussion and approval in the Annual Work Seminar.[1] The Programme for the coming year is executed through the District and Block Committees after it receives the approval of State Co-ordination Committee. This has been combined exactly from the lowest unit at the village level in order to make it a 'People's Programme'.[2]

Basic Agricultural Features of the Aligarh District:

Aligarh is one of the western districts of Uttar Pradesh and lies in the plain between the river Ganga and its tributary Jamuna. The proportion of the crop area irrigated in the district is the highest in the State and it gets ample rainfall during the Kharif season. Rainfall, averaging 83 cms. per annum, is received mostly during the months of

1. Ibid, p.3.
2. Ibid, p.3.

July and August. The soil is mostly loamy, which is known by different names according to the proportion of sand present. The good consistent loam, known as Matiar, preponderates in every tehsil and occupies about 57 per cent of the total area.[1]

Sanction of the IADP in Aligarh:

Administrative sanction of the Programme was issued in November,1960[2] but actual implementation in the district was made from the Agricultural year 1961-62 with a view to increase food production by 50 to 60% in a period of five years by providing all the wherewithals of production simultaneously and exhibiting the proper application of modern scientific methods of crop production. Besides, it was also envisaged bring about development of livestock and poultry to help rural economy.

Coverage of the Programme:

The operation phase of the Programme started from the Kharif season in the year 1961-62 in 196 villages of 12 blocks. The interim period was mainly devoted to preparation of the ground by completing action on the various preparatory measures. The Programme was extended to 236 villages in 14 blocks during Rabi season of the same year. It was further extended in the next year, i.e., 1962-63 to 605 villages in all the 17 blocks of the district. Finally

1. Ibid,1961-64,Chap.II,p.5.
2. Ibid,1961-65,Chap.I,p.1.

in the year 1963-64 the Programme covered all the 1746 villages of the total 17 blocks of the district.[1]

Additional Staff sanctioned:-

Within the framework of the staffing pattern, the existing additional staff appointed varies in each district, depending on the existing administrative set up and the local conditions.

When the IADP was formulated, it was agreed that for intensive educational, technical and farm management assistance which is contemplated under the Programme and the assurance of close supervision over the use of the large volume of credit and supplies provided under it, it would be necessary to strengthen the staff, both at the block and district level.[2]

In respect of the preparation and follow-up of the farm and village production plans, which is the basic element of this Programme, it was of utmost importance to have a thorough understanding of various problems of the cultivators, i.e., fertilizer use, crop rotation, soil and water conservation practices, disease and pest control, cultural practices, credit and marketing arrangements etc. All this requires that the staff working at various levels would have to be strengthened and to make available proper assistance to the cultivators for the use of improved practices.

It was, therefore, considered desirable that the

---

1. Ibid,Chap.III,p.8.
2. Op.Cit.Chap.III,p.13.

entire Programme in the district is technically and administratively supervised by a U.P.A.S. Class I Officer of senior scale, who would work as Project Officer, and who is responsible both for planning the Programme on an annual basis and for its execution must understand the district, the people, the problems and his own staff thorough to be successful in his work, and under the overall supervision of the District Magistrate, who is usually the chief administrative officer at the district level responsible for leadership, administrative control and co-ordination. To play his role effectively he must have a thorough knowledge of the concept and philosophy of the Programme, its operation and basic conditions of his district and the people.

For quicker action and to remove delays the Project Officer has been delegated with some financial powers of all the regional officers of the Development departments, i.e., Agriculture, Animal Husbandry, Horticulture, Co-operation and Planning. Moreover, besides the normal staff of various Community Development Departments posted in the districts, the additional State Officers of Class II, junior scale have been provided with their respective subordinate staff for various schemes of the Package Programme under the Project Officer to assist him in the functioning of the Intensive Agricultural District Programme efficiently.

In the IADP districts, the additional staff recommended includes 10 V.L.W.s,upto 4 Extension Officers (Agriculture),

1 Extension Officer (Co-operation) 4 to 5 Co-operative Supervisors at the block level, and 1 Project Officer, 3 to 4 subject-matter Specialists and 1 Assistant or Deputy Registrar of Co-operative Societies at the district level.[1]

While the bulk of the staff sanctioned at district level was placed in position during 1960-61, this was not the case with the staff sanctioned at the block level. Even till the end of 1961-62[2], the full complement of the block level staff such as A.E.O.s and V.L.W.s was not in position in almost all the districts.

In connection with the additional staff sanctioned in Aligarh District under the Programme, the Progress Report of the district explains that under the supervision of the District Magistrate there is one whole-time Project Officer and one Assistant Project Officer, 6 Subject-matter Specialists, One Accounts Officer, 1 Asstt.Soil Chemist, 1 Seed Development Officer, 1 District Agricultural Information Officer, 1 Asstt.Agricultural Engineer, 1 Asstt. Agricultural Economist, 1 Statistical Officer and 1 Field Officer (for Pests and Diseases), Besides there are in all 774 additional hands under the Package Programme.[3]

Training of the Personnel:

In the early stages of the IADP, the training was imparted mainly in the concept, methodology and operating

1. Ibid,Appendix-I- p.13.
2. Ibid, p.13.
3. Ibid,Appendix I.

procedures. With the advancement in the Programme, attention was increasingly paid to the specific on the job training of field personnel[1] especially the V.L.W.s,Agricultural Extension Officers, Co-operative staff etc., Emphasis was also given on the training of non-officials connected with the co-operatives, progressive cultivators, village leaders etc., in order to elicit their active co-operation and participation.

The object of this Programme was to give training to a limited number of willing cultivators in the specific jobs which are to be performed by them on a particular time in their fields to step up agricultural production. The cultivators and their fields were utilised as radiating points for the benefit of the rest of the cultivators. In each course, 15 cultivators were given training for a period of one to three days, depending upon the specific job in which the training was imparted. This type of training was expected to improve considerably the traditional skill of the cultivators in performing the various agricultural operations.

The training programmes under the IADP were designed to help the cultivators, the programme staff and others in:

a) identifying problems and deciding what is important to the cultivators;

---

1. Op.Cit.,ECAE,New Delhi,1960-65,Chap.III,p.14.

b) providing technical help in preparing and implementing production plans;

c) facilitating supply of timely and adequate credit, production supplies, and marketing services;

d) providing guidance in the use of fertilisers, high quality seeds, insecticides; and

e) implementing a variety of other related programmes.

The training in respect of the abovep was organised at various levels, i.e., Central, State, District and Village.

During the period 1965-66, 2176 participants are reported at the district level and 8384 participants at block level, for the training on (i) Package of Practices, (ii) Spot training in the water use and management at the site in the district, and (iii) Compost making, in Aligarh district. During the period 1966-67 targets fixed for training at Project Headquarters and Block Headquarters, are 3000 and 10,000,respectively. A sight seeing programme for 1000 officials and non-officials was to be organised including visits out of the State.[1]

Main Elements of the 'Package' Programme:

The following are the main features of the Intensive Agricultural District Programme:-

1. Farm Production Planning;

---

1. Op.Cit.,Project Office,Aligarh,p.55-56.

2. Improved Agricultural Practices:-

(i) Fertilisers and Organic Manures
(ii) Improved Seeds
(iii) Improved Implements
(iv) Water Use and Management and Minor Irrigation
(v) Plant Protection Measures; and
(vi) Soil Testing.

3. Animal Husbandry Programmes.

4. Agricultural Information and Extension Education Activities.

5. Assessment and Evaluation.

1. Farm Planning by the cultivators under this Programme is a new approach and is a pre-condition for obtaining all the required inputs. In the initial I stage only 1,40000 simple Farm Production Plans[1] were prepared, which were based on a 'package' of improved and tested agricultural practices for major crops, which was possible to handle effectively by the field staff and a good number of cultivators accepted the same. Farm Plans for the remaining 10,000 agricultural families were to be prepared in the stage II Programme. In the stage II it was envisaged to adopt more advanced agricultural technology in the district from the year 1965-66 in 5 selected villages of each of the seventeen blocks. The process of farm planning at the village, block and district level was initiated from the year 1962-63.[2]

2. (i) The fertilisers were to be supplied through the co-operatives or as Taqavi[3] on the basis of Farm Production

1. Ibid, Chap. III, p.17-18.
2. Op.Cit., ECAE, Chap. XVII, p.200
3. Ibid, p.32.

Plans with every cultivator in the district. In respect of the fertilisers consumption, it is encouraging to note that the use of fertilisers by the cultivators is on an increase. This increase ranged from 45 per cent to 200 per cent during 1962-63,[1] compared with the levels of consumption prior to the introduction of the Programme. Side by side, the emphasis has also been laid on the development of local manurial resources such as green manuring and rural compost.

(ii) For the production and distribution of improved seeds a special Programme has been introduced in the Package districts with a view to supplementing the normal seed development programme in operation in these areas. In each of the first seven districts 3 to 4 seed processing and cleansing equipments were supplied and a special staff consisting of one Seed Development Officer and 3 to 5 Seed Development Inspectors.[2] The goal is to establish a seed industry that will meet the requirements of producing, processing, storing, treating, packing and distributing high quality (certified) seed to registered seed growers for further multiplication and distribution to cultivators.[3] The seed of varieties recommended under IADP would have to pass through the above stages before it is used by the cultivators.

---

1. Ibid, p.200.
2. Ibid, p.24.
3. Op.Cit., ECAE, 1960-65, Chap.V, p.22.

With the introduction of High-yielding Variety Programme, seventeen seed villages were established at the rate of one village per block from Rabi 1964-65 in Aligarh. The production of the certified seed of hybrid maize and hybrid jowar was also taken up in Aligarh from the year 1966-67.[1] Under the programme a list of improved varieties suited to different districts, is drawn and maximum check on quality, both in production as well as distribution, is imposed.

(iii) An implement workshop has been established in each Package district in order to give a stimulus to the production, popularisation and demonstration of the improved implements according to the suitability of the region. These workshops are engaged in the testing of prototypes of implements suited to local conditions. In many of the package districts, different types of implements like ploughs and harrows for seed-bed preparation, land shaping and levelling devices, seed and fertiliser placement devices, inter-culture tools, plant protection equipment and harvesting and threshing implements have been tested. In most of these districts comprehensive field trials are bring undertaken for carrying out modifications and improvements in the implements developed at these workshops.

Aligarh was the first Package district where the Implements Workshop was established in January,1963. During

---

1. Ibid,1966,Chap.III,p.30.

February and March 1963 a training course of three week's duration for all the Agricultural Engineers of different States was organized in the Aligarh district.[1]

An important aspect of the Implements Workshops in the Package districts is to educate and train farmers[2] in the selection, use and care of improved implements through field demonstrations. Therefore, one set of improved implements, hand tools and plant protection equipments has been provided to each village level worker for this purpose.

(iv) Improvements in the efficiency and effectiveness in the water use and management by the cultivators offer scope for increasing agricultural production. The unfavourable weather conditions that exist in few of the Package districts limit the effectiveness of improved seeds, fertilizers, plant protection and other elements in the improved practices adopted by the cultivators. It was proposed to demonstrate sound and practical methods for solving farm irrigation and drainage problems and providing on-the-ground training and experience in water management to the extension staff.

In this respect, a scheme of water use and management was started in June,1963 to improve: (i) the method of managing and conserving water in individual farms and fields; (ii) the conveyance of water between the individual

---

1. Op.Cit.Project Office,Aligarh,Chap.III,p.24.
2. Op.Cit.,ECAE,1960-65,Chap.~~III,p.20~~ V,p.31.

farmers and the State operated irrigation and drainage canals.

Minor irrigation also constitutes an important field of development under the Package Programme as work can be conceived and handled to a large extent by the cultivators themselves.

(v) In the field of Plant Protection Measures, the following steps have been taken in the Package districts[1]

(a) Plant Protection equipment and materials are reported to have been stocked in adequate quantities in the various depots for timely use.

(b) Efforts made for prophylactic treatment of seeds and crops on an area-wise basis to ward off the attacks of pests and diseases.

Plant protection has been included as an essential item of the Package of improved practices adopted in composite demonstration laid out on cultivator's fields. Recommended control schedules were demonstrated in the demonstration plots.

Special emphasis was laid on the training of farmers, members of non-official bodies and the extension staff in Plant Protection methods.

In the year 1965-66 an impressive scheme of Rat Campaign at an estimated cost of Rs.1.30 lacs was launched

---

1. Op.Cit.Project Office,Aligarh,Chap.III,p.20.

all over the district to fight against field and godown rats with the assistance of Ford Foundation.[1] Additional staff comprising of 17 Junior Plant Protection Assistants, 17 Plant Protection Supervisors and 17 Field Attendants, was appointed to intensify the work in Aligarh in the year 1965-67.[2] A limited number of power sprayers-cum-dusters (550) was imported with the foreign exchange made available by the Ford Foundation in the year 1963-64 and were distributed to the first seven Package districts.[3]

(vi) Under the Package Programme a provision was made for the establishment and strengthening of the soil testing laboratories in the first seven districts. The appointment of soil chemists and the construction of the soil testing laboratories and procurement of equipment was made later on.

Aligarh has a well-equipped soil testing laboratory which started functioning from the year 1965 and has a capacity of testing 30,000 soil samples a year. The laboratories in all the Package districts provide information on soil analysis, irrigation, water for use as a basis for the choice of crops and application of fertilisers in scientific doses by field staff.[4]

3. Under Animal Husbandry, the Programme, which

---

1. Op.Cit.,Project Office,Aligarh,1966,Chap.III,p.37.
2. Ibid, p.38.
3. Op.Cit.ECAE,1960-65,Chap.V,p.29.
4. Ibid,1966-67,Sec.IX,p.18.

can contribute immediately to increase the income of the cultivators through improvement of livestock, poultry, piggery and fodder development, have been included. These constituents of the Animal Husbandry Programme in the Aligarh district have been started since the inception of the Package Programme in the district. The results of the work done in this respect are summarised after the analysis of the sample study of Package district cultivators in Chapter VI.

4. In the IADP districts the scheme of Agricultural Information and Extension Education activites constituted mainly the following two practices:-

(i) Dissemination of information through the use of various media of information and publicity.

(ii) Field Demonstrations.

In the first case, an integrated information programme at the Centre-State-District levels was drawn up to provide information and technical guidance to all farmers participating in the Package Programme districts, so that they could fully participate in the Programme and understand and implement the agricultural improvements under it.

In the second case, considerable importance was given to field demonstrations which constitute the most effective tool for motivating cultivators to adopt improved production practices. It was decided that the entire

expenditure in the first seven districts would be borne by the Ford Foundation. In Uttar Pradesh, Aligarh was selected for carrying out an intensive agricultural information programme to serve as an observation-cum-training ground for the information personnel of other States. Aligarh was the first district to set up the information Unit together with the necessary staff and equipment.

5. Assessment and Evaluation was envisaged as an integral part of the Package Programme and was undertaken in all the districts from its inception. Field work for the assessment surveys consists on two components: (a) crop-cutting experiments; and (b) collection of agronomic and economic data.

The Introduction of High-yielding Varieties Programme in the IADP district:

As the IADP did not achieve its object of increasing food production by 50 per cent[1] during the Third Plan period in the districts selected for the purpose, it necessitated drastic changes in technology under the Fourth Five Year Plan and thus marked the introduction of high-yielding varieties programme from the kharif season of 1966-67. In Aligarh district also this high-yielding programme was introduced from the same year, and covered wheat, maize, bajra, paddy and jowar. It was

---

1. Lavania,S and Dixit,R.S. "Economics of HYV in Package District,Aligarh" Indian Journal of Agricultural Economics,Bombay,Vol.XXIII,Oct-Dec.1968,No.4,pp.93-103.

started with the objective of introducing newly identified high-yielding varieties responsive to high doses of fertilizers. This High-yielding Variety Programme aimed at attaining self-sufficiency in food production by the end of 1970-71.

To increase agricultural production in India, several high-yielding varieties crops have been evolved in the recent years. For instance, the new dwarf varieties of Sonara-64, and Lerma Rojo, Mexican Wheat, Hybrid Maize, Taichung Native I, Taichung Native 65, I.R.8, Tainan and Manchar Sali paddy varieties, etc. and introduced in the country within the last six or seven years. The new varieties usually yield 80 to 100[1] per cent more than the local varieties, and for enhancing agricultural production the importance of these high-yielding varieties is considered to be crucial.

The factors which will greatly help farmers in accepting these varieties are once again the same as envisaged for the success of the IADP, i.e.: (i) provision of security of tenure, (ii) incentive-oriented farm price policy, (iii) institutional factors such as the establishment of a good net work of communication facilities, existence of an organized market, provision of adequate and timely credit for cultivation expenses and for the pur-

1..Gohain,D, "Economic Aspects of High-yielding Variety Programme", IJAE,p.73-79.

chase of farm inputs, and (iv) adoption of a package of practices etc.

The IADP districts as 'path-finder' and 'pace- setter' districts[1] have a key role for the successful implementation of the HYV Programme. As, it is considered, these areas are having necessary organisation and facilities which are considered essential pre-requisites to papid agricultural growth, and therefore they can set the pace by demonstrating the successful techniques of cultivation of the high-yielding varieties so as to exploit thier yield potentialities to the maximum extent possible. Experiences gained in these districts can well be utilised in the other areas selected for implementation of the HYV Programme in order to achieve the best results outside the Package area also.

Design and Plan of the Sample Survey:

The significance of Sample Survey undertaken can be realised only after going through the various steps taken in connection with the Package Programme and the actual implementation of the schemes in the field of agriculture. After an analytical study of the progress reports of the Package Programme, the author felt the need of this sample study and conducted this Survey to bring forth the facts, the results of which are summarised after an analysis made out of the data collected.

The author is confident that the achievements of ten years of sustained efforts of the Package personnel and its allied departments would have been much different if some sincerity and integrity had been there in the staff involved under the IADP to get rid of impending food scarcity in the country. What is, in fact, the impact of the Package Programme on the cultivators of Aligarh district, can be compared with the analysis made after conducting the sample enquiry of 720 cultivators in 60 villages of 5 of the 17 blocks of the district.

Period of Enquiry and the Idea Behind:

The above enquiry was conducted during the year 1966-67 when five years had already passed after the implementation of the Programme in the district. The enquiry is related not to the accounting processes of the cultivators, but, the responses were obtained for the purpose of observing the attitude of the cultivators and the personnel towards the Package Programme and its implementation in the district. It took nearly eight months to complete the Survey, as many of the samples were found in the interior villages and even the approach roads sometime were found very improper. Often the samples were not available at the time of the visit and subsequent visits were made to collect the information.

The idea to obtain such information is that the impact of the Programme should be clear in respect of the

cultivators' awareness of the Programme and its applicability in their minds to adopt the ways and means to improve their cultivation. How far they are in a position to avail the opportunities being provided to them and whether they are sufficiently or insufficiently available. As all the cultivators were to receive 100 per cent of their requirements after the preparation of farm plans, the word sufficiently denotes this meaning that their requirements are met in full and less than that means insufficient.

Coverage and Sampling Technique Adopted:

The investigation covered all the blocks in the district. Since it was intended to study the impact of the Package Programme in Aligarh district, a census of all the blocks was taken and a selection of 5 blocks out of the total 17 blocks in the district was made at random.

At the second stage of sampling, a census of all the villages in each of the selected blocks was taken. The samples of the selected villages was drawn out of the total villages in each block, making a cluster of three villages from the list of villages in each block leaving behind 5 numbers, and selecting 5 clusters (15 villages) out of the total clusters in each block. Thus, in all, 20 clusters, covering 60 villages, in all the sample blocks, were selected.

At the third stage of sampling, a census of all the cultivators from each cluster of villages was drawn, and 12 cultivators out of the list of cultivators, after making clusters in the same way as was done at the second stage of sampling, from each sample village were selected, at random.

Thus, covering the whole district randomly, in all, 4 blocks, 60 villages (15 villages per blocks) and 720 cultivators (12 cultivators per village or 180 cultivators per block) were selected for the sample study.

Preparation of the Schedule:

The schedule of the enquiry has been constructed keeping in view the impact of the Package Programme on certain aspects. The enquiry relates to: (i) Status of the cultivators with their holding size; (ii) Preparation of the Farm Production Plans and their successful application in the field; (iii) Role of the Co-operatives in disseminating the required agricultural inputs to the farmers; (iv) Financial assistance from Co-operatives and other agencies; (v) Scientific Demonstrations and their effect on the cultivators; (vi) Means of irrigation utilised; (vii) Livestock facilities; (viii) Ability of cultivators to utilise inputs and draw benefits out of the Package Programme.

Compilation of the Data:

(i) Arrangement of Tables: After the completion of the investigation, the enquiry has been arranged into eight

eight groups of questions to make easy the preparation of tables and in order. Each group containing few related enquiries.

A separate table for each group has been prepared first block-wise, and then a consolidated table fof all the four blocks is constructed which shows the results of each group of enquiries at a glance. In this manner, 32 tables (eight tables per block) for all the 4 blocks and 8 consolidated tables of the group-wise enquiries, are constructed.

(ii) Tabulation of the Responses:

In all the 40 tables constructed, emphasis is given on the responses of the interviewees in relation to acreages. For this purpose, three acreage-groups are drawn, that is, from 0 to 5 acres, 5 to 10 acres, and 10 and above acres, showing the responses of the cultivators under the different acreage-groups.

In all the tables constructed under these groups of enquiries, the second column contains the three acreage-groups, and in the third column total number of cultivators of the particular enquiry is given. In the rest of the columns, responses of the investigation are arranged in numbers of the interviewees and their percentages out of the total number of cultivators given under column No.3.

A total of all the cultivators under the three acreage-groups is also given in the last in column No.3 and concourrently, the percentage, out of this total, showing the percentage responses of particular enquiries in each block covered under the enquiry, is given.

Out of the various responses from the enquiry, the investigation has been drawn and the co-relation of different facts and the results are analysed in a systematic manner, bringing in light the impact of the Package Programme in Aligarh district of the participating cultivators.

CHAPTER - II

STATUS OF THE CULTIVATORS

Before critically examining the data about the status of the cultivators in relation to their holdings, it is vital to give a brief account of the process of distribution of the rights to the cultivators before and after the abolition of zamindari system prevailing in Uttar Pradesh.

Land System before ZamindariAbolition:

Before the abolition of zamindari system in Uttar Pradesh,1952, the tenure holders could be broadly divided into two classes, viz., (a) proprietors and (b) tenents. The land was owned by the proprietors while the tenents generally cultivated it. The tenants were placed in various categories from the view point of the right of occupancy. The proprietor class included zamindars and Taluqdars (in Avadh)[1] and they acted mainly as intermediaries in the collection of land revenue between the State and the cultivators. Their rights were permanent, heritable and transferable, so that they had the right

1. Report of the Zamindar Abolition Committee,U.P.,Allahabad,1948,Vol.I,Chap.VII,pp.157-64.

to hold land in perpetuity which was theoritically vested in the State subject to the payment of land revenue that was determined at the time of settlement. This right was extremely comprehensive and entitled them to use the land in any way that they liked. The only obligation imposed on them was that of the payment of land revenue. Their rights were so extensive as to include all village land including abadi (inhabited sites), culturable and non-culturable land as well as the village common land.

It was only to a small extent, not exceeding 1/5th of the total area under cultivation at the time of zamindari abolition, that the land was cultivated by the proprietors themselves.[1] Four-fifth of it was cultivated by the tenants, who were divided into various categories from the view point of the right to the provision of land. But proprietors and protected tenants let out land on batai. Holdings were let out mostly on cash-rental basis although the system of share-cropping was also in vogue. Rents had continuously increased as pressure on land increased and rack-renting had become such a marked evil of the system that it affected adversely the incentives for higher and improved cultivation. The tenure-holders were only to pay land revenue, while the entire cost of cultivation was to be borne by the bataidar. Only trustworthy persons were selected so as to prevent them claiming rights of land

1. Singh, Baljit, "Land Reforms in Uttar Pradesh', Planning Commission, Chap.III, p.21

in future, the names of bataidars were not entered in the village records, the terms were settled by mutual agreement. This state of affairs has continued even after the abolition of zamindari.[1] Besides, the rent the zamindars used to collect a number of illegal exactions or nazrana under one pretext or the other.[2]

Besides the proprietors, there were other intermediaries between a principal tenant and a zimandar. These included an "under-proprietor"(in Avadh), "sub-proprietor" (inAgra), "permanent tenure holder" or a "permanent lessee".[3] Their rights were guaranteed under the terms of settlement and were permanent, hereditable and transferable like those of the zamindars. The latter had no right to resume land under the occupation of these inferior proprietors from whom they received a share out of rental income. There was thus a long chain of sub-infeudation and the burden of it fell on the tiller of the soil, who was a tenant. This chain was sometimes lengthened by permanent or temporary leases or mortgages of their land by the zamindars or under-proprietors in favour of thekedars or mortgagees.[4] In certain other cases the tenants themselves leased out or sub-let their holdings and added to this process.

---

1. Planning Commission,New Delhi,'Implementation of Land Reforms' Aug.1966, p.248.
2. Report of the U.P.Zamindari Abolition Committee,1948, Vol.I,Chap.VII,p.159.
3. Ibid,pp.159-65.
4. Ibid, pp.159-162.

Proprietary cultivation: This includes the term Sir and Khudkasht[1] which is the home-farm of the proprietor, i.e., the land cultivated by the proprietor with his own material, servants or by hired labour. The proprietor had special rights over such land, an unrestricted right of letting his Sir, the lessee or tenant does not obtain hereditary rights. The revenue imposed upon zamindar in this respect is very concessional as compared with the rents paid by the tenants.

Tenants and their rights: There were several kinds of tenants in the State before the abolition of zamindari system such as fixed-rate tenants, tenants holding on special terms in Avadh, ex-proprietary tenants, hereditary tenants, occupancy and non-occupancy tenants and others like grantees and grove-holders.[2] Besides, there were sub-tenants and tress-passers. Thus the rights and conditions of tenures showed wide variations. A fixed-rate tenant enjoyed heritable right as he had also unlimited right to sub-let land.

The interest of tenants holding on special terms in Avadh was heritable but not transferable. They enjoyed certain special privileges because they were previously the owners of their land. In other respects they had the same rights and liabilities as those of the

1. Ibid, p.162.
2. Ibid,p.164-74.

occupancy tenants.

Ex-proprietary rights accrued in Sir and Khudkhasht land when a proprietor lost his proprietary right by voluntary alienation or by operation of law such as foreclosure or sale in execution of a decree. He held such land at a rent rate which was two annas in a rupee less than the rent rate of an occupancy holder.

Occupancy rights were required ordinarily by continuous cultivation for a period of twelve years before the tenancy reforms of the twenties. The occupancy rights were hereditary although not transferable. The occupancy tenants could, however, sub-let their holdings. The hereditary tenants came into existence after the passing of the U.P. Tenancy Act of 1939. They included a large number of ordinary tenants who did not have any permanent rights before the passing of the above legislation, and, therefore, were always under the fear of ejectment. The non-occupancy tenants were largely as sub-tenants, or tenants of Sir on which tenancy rights could not be acquired.

The comprehensive tenancy legislation before the abolition of zamindari system was the U.P. Tenancy Act of 1939.[1] Under this Act all tenants who formerly had no permanent rights were granted permanent and heritable rights, the only exception being the sub-tenants and

---

1. Ibid, p.163.

tenants of Sir. Further, tenants were given right to make improvements on their holdings with the consent of their landlords and if the court allowed them, could do so even if the landlords did not agree. They could also claim compensation in the case of ejectment. The Act imposed restrictions upon the enhancement of rent which could be enhanced either due to increase in area or because of increase in productivity. The rules framed under the Act provided that rent could not be revised for a period of 20 years or till the next settlement was due. Provision was also made for the remission or suspension of rent.

The Case for the Abolition of Zamindari System:

In economies where an overwhelming majority of the people live by agriculture, raising of agricultural productivity is a necessary condition of economic growth and improvement in the standard of living of the masses. Agricultural productivity per acre and per capita is often circumscribed and limited by the prevailing land system.

It has been pointed out in a ECAFE paper that "in a number of countries of the region, defective land tenure systems stultify the farmer's initiative for the improvement of production and deaden the impact of economic plans. Agricultural development throughout the world is strongly motivated by the incentives of farmers, which may like the form of pride of ownership, security of occupancy& and the

expectation of a just division of farm income between landlords and tenants. These factors have everywhere proved to be stimulus for land improvement".[1]

Discussing the incentives and institutional factors influencing the rate of agricultural development the Secretariat of the FAO reported as follows: "Unsatisfactory forms or conditions of land tenure may constitute a major impediment to development by creating or perpetuating social unrest, as well as by hampering the modernisation of agricultural Out-of-date cropping systems, for instance, may be propped up by tenancy laws or customs. The application of modern methods may be impossible because farmers' incomes are depressed by exhorbitant rents to an extent which leaves no margin for saving or investment. The tenant may lack the minimum security of tenure which would encourage him to invest savings in improvements or would encourage a creditor to grant the cultivator a loan. The tenants' bargaining position may be further weakened by the host of intermediaries between the cultivator and the legal owner of the soil. Under unsatisfactory conditions of land tenure, it is doubtful whether subsidies or efforts by extension services to encourage development will be fully effective because the tenant may receive only a small share of any increase in

---

1. U.N. Economic Bulletin for Asia and the Far East, Vol.XI,No1, June,1960,p.8.

production due to his own efforts or investments and so has little incentive to make them".[1]

The Congress Agrarian Reforms Committee reported in 1949 that "there cannot be any lasting improvement in agricultural production and efficiency without comprehensive reform in the country's land system. The Committee is strongly of the opinion that in the agrarian economy of India there is no place for intermediaries and land must belong to the tiller".[2]

The U.P. Zamindari Abolition Committee built up a case for zamindari abolition along the following lines: "The organisation of agriculture and its efficiency depends very much on the system of land tenures and a cultivator will not work to his full capacity nor will he invest his resources in improving his land, unless he is certain that he will enjoy the fruits of his labour and the benefits accruing from his investment".[3]

The Committee has further observed that one of the basic causes of food crisis was the outmoded system of landlordism since it dampened the cultivator's incentives and prevented intensive cultivation. "It has become a drag on the development of the productive forces of the country. It hinders every sensible scheme of large scale operation for rehabilitating the collapsed economy of the country.

1. Ibid, Vol.III,No.3,Nov.1957,p.73.
2. A.I.C.C. Report of the Congress Agrarian Reforms Committee, New Delhi,p.7.
3. Op.Cit.Ch.XIII,pp.336-358.

Abolition of parasitic landlordism along with the simultaneous development of industries can alone draw away the population unproductively engaged in agriculture - and the landless labourers and the occupiers of uneconomic holdings - and make possible the reorganisation and regrouping of those who remain on land into co-operative enterprises and, thereby, increase the national wealth and income. No solution within the existing framework of the land system being possible, the landlord must go".[1]

Objectives of Land Reforms:

Land reforms include all these measures which aim at optimum land use, higher productivity and maximisation of agricultural output. Briefly, there may be four distinct objectives of land reform policy. Firstly, there is the problem of low agricultural productivity and output. Any measures at an institutional level that tend to remove obstacles towards maximisation of agricultural output and productivity or that promote it directly have often received the top priority in shaping land reforms. Security of tenures, improvement of tenurial status, ownership rights to the tillers of the land and even schemes of land redistribution and consolidation of holdings, are all designed to achieve this goal. These include promotion and strengthening of incentives, removal of obstacles to technological advance, and maximisation of farm inputs.

---

1. Ibid, p.357.

Secondly, land reforms have been undertaken to bring about a fair or equitable distribution of agricultural income.

Thirdly, a basic problem of most underdeveloped and agricultural countries is that of vast under-development in agriculture. Land reforms, therefore, may be directed to achieve an increase in employment. A case for land redistribution is often built on this ground. An I.L.O. Report states that "a wider distribution of ownership can certainly stablise and increase the volume of farm employment and production, since it allows a fuller employment of the family labour force. Large estate systems in the less developed countries aim at reducing the costs of labour by employing hired workers only at peak seasons, so that for long periods of the years the workers are unemployed. If however, farm workers are settled on independent holdings they have an incentive to work more regularly, they will tend to diversify cropping and keep livestock so as to spread labour requirements and employ their families, their skill in management and initiatives can be developed. Where redistribution of ownership is accompanied by public investment in land improvement or reclamation, the gains in production will be all the greater".[1]

Finally, land reforms have a social or ethical objective as well. In agricultural countries land has not

---

1. I.L.O. "Why Labour Leaves the Land", Geneva,1960,p.226.

only an economic value but possesses a prestige value too. People and families without land in the villages have little social status and always suffer from a sense of inferiority.

There were attempts to improve the land tenure system almost from the very beginning of the present century. But these were confined to legislative measures designed to improve the tenurial status of the tenants and did not go deep into the roots of the system that was basically feudalistic and anachronistic. They left the agrarian structure sterile, rigid and unresponsive to agricultural development or improvement in the condition of the farming families.

It was under these circumstances that committees were appointed in several provinces in the late thirties to examine the system in all the directions. Immediately therefore, after independence far-reaching land reforms began to be envisaged in several parts of the country.

The abolition of the zamindari system in Uttar Pradesh formed part of this phase. These reforms, however, were not on a uniform pattern nor linked to any unified scheme for the country as a whole.

It was in this background that the Planning Commission applied itself to the task. It pointed out that land policy has to be conceived in terms of a balance

between the different interests in land on the one hand and the effects on production of each measure on the other".[1]

In respect of the large owners the Commission favoured the principle that there should be an upper limit to the amount of land that an individual may hold. It, however, distinguished between (a) a limit for future acquisition, and (b) a limit for resumption for personal cultivation. The Commission further emphasised that the limit be fixed in each State with reference to its own problems and history and land management legislation be passed to lay down and enforce standards of cultivation and management. For the small and medium owners the Commission recommended programmes for consolidation of holdings and gradual transition towards co-operative farming. The Commission favoured the idea of defining the rights of tenants who cultivate the land of small and middle owners and suggested a security of tenures of 5 to 10 years that should be renewable.

By the time of the Second Five Year Plan, the Commission's emphasis on maximisation of output and productivity had become even more marked. It pointed out that the objectives of land reforms were two-fold: (1) to remove such impediments upon agricultural production as arise from the character of agrarian structure, and (2) to create conditions for evolving as speedily as may be possible, an

1. Planning Commission, The Second Five Year Plan, Chap.13, pp.184-198.

agrarian economy with high level of efficiency and productivity."[1]

Broad Purposes of Land Reforms in Uttar Pradesh:

The major legislations that have been introduced in Uttar Pradesh in recent years are (i) the U.P. Zamindari Abolition and Land Reforms Act, (ii) the U.P. Consolidation of Holdings Act, and (iii) the U.P. Imposition of Ceiling on Land Holdings Act. The last was notified as late as January,1961. Within a period of ten years far-reaching changes have been made in the land system of the State. But all these have had a common broad purpose, viz., to increase output and productivity. Thus it was stated in the Statement of Objects and Reasons[2] for introducing the Bill for zamindari abolition that the abolition of zamindari and its replacement by a new land system was necessary "to ensure agricultural efficiency and increased food production, to raise the standard of living of the rural masses and to give opportunities for the full development of the peasant's personality."

In addition to the broad purpose of maximum output are the detailed provisions in regard to the following:-

(i) Abolition of the zamindari system which involves intermediaries between the tiller or the soil and the State.

(ii) Replacement of the multiplicity of land tenures by

1. Ibid, p.178.
2. Govt. of U.P.Gazette Extraordinary,June10,1949.

a simple and uniform scheme under which the vast majority of cultivators will become bhumidars or owners of their holding.[1]

(iii) Restriction on sub-letting.

(iv) Avoidance of multiplication of uneconomic holdings by prohibition of partition of holdings below a certain level.

(v) Restriction on future acquisition of holdings to a maximum of 30 acres in the beginning and 12.5 acres at present.

(vi) Restrictions on ejectment and elimination of rack-renting.

(vii) Encouragement and rapid growth of co-operative farming.

(viii) Consolidation of holdings.

(ix) Imposition of Ceiling on land holdings at 40 acres of 'Fair Quality Land' plus 8 acres for every additional member of a family in excess of five members subject to a maximum of 24 such additional acres.

(x) Redistribution of surplus land to co-operative farmers and particularly in settlement with a co-operative society of landless agricultural labourers.

(xi) Vesting of certain land in Gaon Samaj and land management and control by Gaon Sabha.

---

1. Op.Cit.,Singh,B. and Misra,S.,1964,pp.19-20.

Changes in Land System:

One of the main provision of the zamindari abolition and land reform Act 1950 was with regard to the vesting of all estates in the State from the date of vesting, which was later notified on July 1,1952.

As a result of this vesting all rights, title and interests of all the intermediaries were terminated and ceased from the date of vesting. An 'intermediary' of an estate was defined as a proprietor, under-proprietor, sub-proprietor, thekedar, permanent lessee in Avadh and permanent tenure-holder of such estate or part thereof. The only rights of the intermediaries that were preserved were those of working any mines, of easement as a bhumidar sirdar, adhivasi or asami of any land, and rights to recover any arrears. Groves and buildings belonging to an intermediary also continued to belong to him. Further, land in the cultivation of an intermediary as his Sir or Khudkasht was converted after zamindari abolition into his bhumidhari.

Classification of Tenures:

After the abolition of zamindari a new and simple tenurial pattern has come into existence consisting only of three types of tenures in place of a confusing variety of about forty types of various land interests. Out of these two are principal tenures known as bhumidar and sirdar

while the third known as asami rather an inferior type of tenure.

(a) Bhumidar: Under this tenure all the land under personal cultivation of the ex-zamindars consisting of their Sir and Khudkasht and groves and the land under the tenants possessing the right to transfer the holding by sale, which might be occupancy or hereditary, and tenant on patta dwami or istamrari has been recognised as their bhumidari by conversion. All the ex-zamindars as grove holders have been declared bhumidars of their groves. There have been imposed restrictions with regard to sub-lease.

Besides, the Act provided for the acquisition of bhumidari rights by any limit, sub-tenant and occupiers without consent under the former law, by paying ten times of their annual rent if paid in lump sum, or equal to 12 times if paid in instalments as provided for in the Act.[1]

A bhumidar has a permanent, heritable and transferable right to his holding. No bhumidar is liable to ejectment. He can use the land for wheatever purposes he likes. The land revenue of the bhumidars who have acquired the right by paying ten times land-revenue has been fixed at 50 per cent of the rent fixed by them. Others continue to pay the land revenue as fixed under the settlement.

---

1. Ibid. p.74.

(b) Sirdar: Cultivators consisting of tenants, sub-tenants and occupiers of land without consent have been declared as sirdars of the land under their cultivatory possession. All the tenants including those holding on special terms in Avadh, ex-proprietary tenants, occupancy and hereditary tenants, non-occupancy tenants of tea-estates, grantees at a favourable rate of rent, and tenant of leased out sir have thus acquired the sirdari rights.[1]

Sirdari interest is permanent and heritable but not transferable. A sirdar is entitled to use the land for agriculture, horticulture or for animal husbandry but not for any other purpose. A sirdar pays as land revenue to the State directly the amount he formerly paid as rent to the zamindars. He is liable to be ejected in case of void transfers, for use of land in contravention of the provisions of law and from land of public utility, i.e., common pasture land, cremation or burial grounds, tank, pathway or khalyan etc. A limited right to transfer has been given subsequently to the sirdars under the co-operatives Act 1956 which provides for the sale of the holding of a Sirdar in execution of a decree for money due to a society.

(d) Asami: The tenure of an asami has been created in order to provide a new status to tenants who had so far a temporary and unstable right upon the holdings they cultivated.[2] They mainly consist of former tenants of

1. Ibid, p.74.
2. Ibid, p.75.

intermediaries of grove land, sub-tenants of grove-land, sub-tenants of mortgagees, those who held land from disabled bhumidars or sirdars or those who hold pasture land or land covered under water either from the Gaon Samaj or any other local authority. The asami's rights are heritable but not permanent and transferable. The Act provides for ejectment of asami under certain circumstances. On being admitted to the occupation of land an asami is liable to pay such rents as may be agreed upon between him and his landholder or the Gaon Samaj as the case may be.

Adoption of the Rights of Cultivation by Aligarh cultivators under various acreage-groups:

For obtaining an overall picture of the farmers in the Aligarh district in relation to their status, the results of the sample study, have been produced here. Being a 'Package' district, it is imperative to note the changes occured after the Land Reforms in the State as well as in the district. After the Abolition of Zamindari system in the State and the implementation of Land Reforms Act, the cultivators were given an opportunity to improve their status, ie., becoming bhumidars after the payment of ten times of their rent. As after converting themselves into bhumidars the cultivators could realise the maximum benefits through the various government agencies helping preferably to bhumidars and improve their agricultural production as well as their standard of living.

The status of the cultivators according to their holdings as drawn out of the data collected from the sample villages of Dhanipur block, has been arranged in the table given below:-

Table No.1:1 - Number and Percentage of the Cultivators showing their status in Dhanipur block.

S.No.	Acreage-group.	Total No. of Cultivators.		Bhumidars		Sirdars		Asamis	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10
1.	0-5	103	57.2	53	51.5	48	46.6	2	1.9
2.	5-10	66	36.7	34	51.5	31	47.0	1	1.5
3.	10 and above.	11	6.1	9	81.8	2	18.2	-	-
	Total:	180	-	96	53.3	81	45.0	3	1.7

The holdings of the three different categories of cultivators, i.e., bhumidars, sirdars and asamis, have been divided into three acreage-groups as is evident from the above table,i.e., from 0-5, 5-10, 10 and above acres (small, middle and big cultivators). The total number of cultivators in all the three acreage-groups comes to 180 in this block.

Out of 180 cultivators in the block, the percentage of cultivators of small holdings among all the three categories, is the highest which amounts to 57.2 per cent.

There are 36.7 per cent cultivators in the acreage-group of middle class, i.e., 5.10. The percentage of big cultivators, i.e., in the acreage-group of 10 and above is only 6.1, which is lowest in comparison to the other two groups. This is obvious that tiny plot holders are dominent in the block. This shows there is an inverse co-relation between the holdings in acreage and the cultivators, i.e., lowest the acreage, the highest is the percentage of cultivators.

The other important fact revealed about the status of the cultivators is worth considering. In lower and middle acreage-group the percentage of bhumidars and sirdars is approximately equal but the percentage of bhumidars is to some extent higher than the sirdars. It means the cultivators of small holdings have preferred to acquire bhumidari rights than to remain in the status of sirdar or asami.

There is a close approximity in the percentage of these two types of cultivators, i.e., bhumidars and sirdars. The number of asamis is so small that it is negligible and needs no discussion.

The third acreage-group, i.e., from 10 and above acres, shows a totally different position of cultivators. As the bhumidars under this acreage-group are 81.8 per cent whereas sirdars are 18.2 per cent only. As this acreage-group is of big land holders and they are holding a strong

position by acquiring bhumidari rights as soon as the zamindari abolition act provided this opportunity to them.

The investigation of this block of cultivators reveals that out of 180 cultivators in this block, bhumidars in all the three acreage-groups are 53.3 per cent, sirdars 45.0 per cent and asamis 1.7 per cent. There is not a wide gap between the percentages of bhumidars and sirdars. The overall position under the Dhanipur block with regard to the adoption of bhumidari rights is not better as the cultivators who benefitted from the opportunity of being bhumidars are only 8.3 per cent higher than the sirdars.

The status of cultivators in respect of their holdings size, as tabulated according to the data obtained out of the samples of the villages of Lodha block, has been arranged in the following table:-

Table No.1:2 - Number and Percentage of the cultivators showing their status in Lodha Block.

S.Nos.	Acreage-group.	Total No. of Cultivators.		Bhumidars		Sirdars		Asamis	
		Nos.	%	No.s	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10
1.	0-5	98	54.4	48	49.2	47	47.9	3	2.9
2.	5-10	69	38.3	51	73.9	16	23.0	2	3.1
3.	10 and above	13	7.3	12	92.3	1	7.7	-	-
	Total:	180	-	111	61.7	64	35.6	5	2.8

The cultivators under the three acreage-groups hold nearly the similar percentages as in the former Dhanipur block. There is only a nominal increase or decrease in the percentages of these categories. What we find in the first group of acreages, i.e., from 0-5 acres, that 54.5 per cent cultivators are under this acreage-group, which is only 2.8 per cent less than the percentage of this group of cultivators in Dhanipur block and this is not a great fall in their percentage.

In the next acreage-group, i.e., from 5-10 acres, the percentage of cultivators is 38.3. The percentage of cultivators in this acreage-group is the highest if compared with the other blocks. The next acreage-group, i.e., from 10 and above acres, has 7.3 per cent cultivators out of the total cultivators in the block. This is an increase of 1.2 per cent under this acreage-group than the former block.

Thus out of the 180 cultivators in the Ladha block small cultivators dominate, while the big cultivators are on the lowest percentage, as in the former block.

The responses of the cultivators from the villages of Lodha block in respect of their status and holdings are to a great extent different than the Dhanipur block. As in the first acreage-group, the percentages of bhumidars and sirdars are very similar in the two blocks, i.e. bhumidars hold a position of 49.2 per cent, whereas sirdars 47.9 per cent. This shows a different of only 1.3 per cent

in the status of holdings. This is a remarkable picture of the cultivators, who have not adopted the bhumidari rights to such an extent in this block.

The asamis hold a somewhat higher percentage than the Dhanipur block, i.e., 2.9 per cent under this acreage-group.

The study of the cultivators under the second acreage-group, revealed a totally different position. Under this acreage-group cultivators have acquired bhumidari rights on a higher level, i.e., 73.9 per cent held this status. This shows that the cultivators were more interested to acquire the superior position over the sirdars. Bhumidars are 50.9 per cent higher than the sirdars under this acreage-group in this block, as sirdars are only 23.0 per cent. The percentage of cultivators under this acreage-group, who have adopted this status, is highest in all the four blocks picked up in the sample under this enquiry.

There is a marginal increase in the percentage of asamis in this acreage-group in comparison to the first acreage-group but it is double if compared with the asamis of the Dhanipur block.

Cultivators under the third acreage-group, i.e., from 10 and above acres, hold a very good position, as 92.3 per cent of the total cultivators have adopted bhumidari rights. Adoption of bhumidari status under this acreage-group on such a high percentage is not found in any of the blocks

covered under the enquiry. Cultivators who have not converted themselves into bhumidars and retained sirdari status are very few, i.e., only 7.7 per cent under this acreage-group. The acquisition of these rights on the part of cultivators to such an extent manifests that they are well-acquainted of the relative benefits in holding this superior status.

The status of the cultivators in respect of the acreage-group, as tabulated out of the data collected from the samples of the villages of Jawan block, is shown in the following table.

Table No.1:3 - Number and Percentage of the Cultivators showing their Status in Jawan block.

S.Nos.	Acreage-group.	Total No. of Cultivators.		Bhumidars		Sirdars		Asamis	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10
1.	0-5	107	59.4	61	57.0	42	39.2	4	3.8
2.	5-10	57	31.7	38	66.7	16	24.6	3	8.7
3.	10 and above.	16	8.9	13	81.2	3	18.8	-	-
	Total:	180	-	112	62.2	61	33.9	7	3.9

Out of the 180 cultivators in Jawan block under the three acreage-groups, the percentage of the first acreage-group is almost the same as in Dhanipur and Lodha block. To

some extent the small cultivators are in greater number, i.e., they are 5.0 per cent more than the Lodha block. This may be seen that usually the small cultivators are in large numbers in all the villages of the sample blocks. Cultivators in the other acreage-group, i.e., from 5-10 acres in this block, are 31.7 per cent. Out of the total cultivators, the percentage of this acreage-group in comparison to the former Lodha block, is 6.6 per cent less, while the difference if compared with Dhanipur block, the percentage is found below by 5.0 per cent in this respect.

The cultivators under the third acreage-group, i.e., from 10 and above acres, are 8.9 per cent of the total cultivators selected in the sample. What is the relative different among the cultivators of the Dhanipur and Lodha blocks under this acreage-group, can be seen from the above table in comparison to the percentages of other tables of the said blocks. The percentage of this acreage-group of this block is 2.8 per cent higher than the Lodha block. The percentage of the cultivators under this acreage-group is highest in all the blocks under enquiry.

When we examine the status of the cultivators we find that 57.0 per cent cultivators have acquired the status of bhumidars in this block. This means that the cultivators of this block lead to acquire bhumidari rights than in all the other blocks.

The number of cultivators who have not acquired bhumidari rights and are still retaining the sirdari status is the lowest in the block and it is also lowest in comparison with the other blocks as well. Sirdars are 39.2 per cent in the block. This is the only block out of the 4 which is superior in respect of the status of the cultivators on account of higher percentage of bhumidars under the lowest acreage-group in the block. While in the other blocks the situation on the point under this acreage-group is quite reverse.

The data in respect of the asamis under this acreage-group reveals that the percentage of asamis is higher in this block than all the other blocks. 66.7 per cent cultivators under the second acreage-group,have acquired bhumidari status. The cultivators of this block under this acreage-group do not seem to be much interested in becoming bhumidars as the cultivators of Lodha block appear, whose percentage is higher by 7.2 per cent.

The percentage of the cultivators under this acreage-group who retained the status of sirdar is normally the same as in the former Lodha block. This shows that in both these blocks, the percentage of sirdars is almost the same while the percentage of bhumidars is quite different.

8.7 per cent cultivators hold the status of asamis under this acreage-group. It is, of course, a high percentage in this block than all the four blocks under the study.

81.2 per cent cultivators under the third acreage-group, have acquired the bhumidari rights who are almost the same as that of the cultivators of Dhanipur block. The cultivators who confined to the status of sirdars under this acreage-group, are 18.8 per cent which is the similar percentage of the cultivators of Dhanipur block. There is no asami under this acreage-group.

The cultivators, holding the status of bhumidar in all the three acreage-groups as shown in the above table, are 62.2 per cent out of the total cultivators in Jawan block, which is the highest among the other blocks. Sirdars, as a whole in this block in all the three acreage-groups are 33.9 per cent. On the other side the percentage of asamis is highest among all the blocks. The study of this tables reveals the fact that the cultivators of all the three acreage-groups, who acquired bhumidari rights in Jawan block, are more interested in obtaining a superior position than in other blocks.

The status of the cultivators of Sasni block is shown in the following table according to their holdings in acreages.

Table No.1:4 - Number and Percentage of Cultivators showing their status in Sasni block.

S.Nos.	Acreage-groups.	Total No. of cultivators.		Bhumidars		Sirdars		Asamis	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10

1	2	3	4	5	6	7	8	9	10
1.	0-5	115	63.9	54	46.9	58	50.4	3	2.7
2.	5-10	57	31.9	39	68.4	16	28.1	2	3.5
3.	10 and above.	8	4.4	8	100.0	-	-	-	-
	Total:	180	-	101	56.1	74	41.1	5	2.8

This can be seen from the table that the percentage of the cultivators in the first acreage-group, is 63.9, which is highest among all the other blocks. It means the number of small-holding cultivators have an upper hand in this block.

In the second acreage-group the percentage of cultivators is 31.9, which is almost the same as that of the Jawan block, but a bit lesser than Dhanipur and Lodha block. It means the cultivators holding the status of middle class by acreage are nearly half of the numbers of small holding cultivators in this block.

The percentage of cultivators of the next acreage-group, i.e., from 10 and above acres, is 4.4 which is the lowest in view of other blocks.

The percentage of cultivators under the first acreage-group, who acquired bhumidari rights is 46.9. The number of bhumidars of small holdings category is the lowest in this block whereas the total number of cultivators of this cate-

gory leads among other blocks. It shows that the cultivators of this block are not keen enough to raise their status as to bhumidars.

On the other side, the cultivators who retained the status of sirdars in this acreage-group, are 50.4 per cent, which shows that the sirdars are numerically in superior position than in other blocks in this particular acreage-group. The asamis are 2.7 per cent in this block, which is also the next highest percentage in all the blocks.

Cultivators who have adopted bhumidari status in the second acreage-group, are 68.4 per cent. This is the next highest percentage in all the blocks under study. The higher percentage of cultivators under this acreage-group indicates that the cultivators of this group are status-conscious as because they seem to be well aware of the benefits that can be had by acquiring bhumidari rights. This is way majority of them have turned to be bhumidars. This is a good sign if such an understanding is among other cultivators in all the blocks or other acreage-groups. But only the understanding could not serve any purpose in the adoption of this status. There are other problems before the cultivators which are putting hinderance in their way for securing the status of bhumidar, will be discussed later on.

The position of sirdars in the second acreage-group

is not much different to that of other blocks. Sirdars constitute a percentage of 28.1 while the percentage of asamis is 3.5 under this acreage-group, which is the next highest percentage to the percentages of asamis found in other blocks.

The percentage of cultivators under the third acreage-group, i.e., from 10 and above acres, who have converted themselves into bhumidars is remarkable in comparison with the other three blocks, i.e., 100.0 per cent. Mostly the cultivators are properous and have one or the other reasons for their preference to become bhumidars. There are no cultivators left as sirdars in this block.

A comparative picture about the status of the cultivators under different acreage-groups of all the four blocks under study is given below:-

Table No.1:5 - Number and Percentages of the Cultivators showing their status in all the four blocks.

S.Nos.	Acreage-group.	Total No. of Cultivators.		Bhumidars		Sirdars		Asamis	
		Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10
1.	0-5	423	58.7	216	52.0	195	46.0	12	2.0
2.	5-10	249	34.6	162	65.0	79	31.7	8	3.3
3.	10 and above.	48	6.7	42	87.5	6	12.5	-	-
Total:		720	-	420	58.3	280	38.9	20	2.8

The above table gives the over position of the cultivators, who are either bhumidars, sirdars, or asamis. The Total number of the cultivators of all the four blocks under the first acreage-group is 423, i.e., 58.7 per cent out of all the 720 cultivators included in the enquiry. It throws light on the fact that the cultivators under the first acreage-group, i.e., from 0-5 acres, are in highest percentage. The total number of cultivators in the second acreage-group, i.e., from 5.10 acres, is 249, i.e., 34.6 per cent. In the third acreage-group, (10 and above acres) there are only 48 cultivators in all the four blocks out of the total cultivators. In other words there are 6.7 per cent cultivators under this acreage-group.

On the other side, the cultivators who have adopted bhumidari rights are 52.0 per cent. This clarified the position of small cultivators who were able to improve their status after the multiple payment of the annual rent to the State and also to draw the other facilities in respect of the loans for the improvement of their farms and yield of the crops.

The cultivators, under this acreage-group, i.e., 0-5 acres, who did not adopt bhumidari rights and retained their former position ie., sirdars, are 46.0 per cent. It means there is only a marginal difference between the cultivators who have adbpted these rights and others who continue

their old status, i.e., only a difference of 6.0 per cent. This marginal difference means, no incentive was provided to these small cultivators who have not tried to acquire bhumidari rights while there were obvious benefits in obtaining these rights.

Under the second acreage-group, i.e.,5-10 acres, it is noticed that 65.0 per cent cultivators got conversion into bhumidarishiip, which is a slightly higher percentage over the smallest acreage-group. Those who preferred to remain as sirdars are 31.7 per cent under this acreage-group. This is a lower percentage in comparison to the lowest acreage-group. It means that the cultivators of this acreage-group were more reluctant to acquire bhumidari rights and they were not convinced with the obvious benefits. Asamis under this acreage-group are 3.3 per cent, which is 1.3 per cent higher than the first acreage-group.

The cultivators who have obtained bhumidari status under the third acreage-group, in all the sample blocks, are 87.5 per cent. This is the total percentage of the cultivators under the third acreage-group of all the blocks who have acquired bhumidari rights, which marginally varies with the total percentage of each block especially under this acreage group. There is only one, i.e., Sasni, in which, under this acreage-group, all the cultivators have acquired bhumidari rights.

The cultivators holding the status of sirdars under this acreage-group are 12.5 per cent. It shows a marked difference in the adoption of bhumidari status of big cultivators in comparison to the cultivators of the other two acreage-groups. Comparatively, the smaller the acreage-group, the higher is the percentage of the cultivarors confining on their status as sirdars and vice-versa.

While, the situation in the case of acquisition of bhumidari rights is just reverse, lower the acreage-group of cultivators, the smaller is the percentage of cultivators who acquired bhumidari rights and vice-versa.

This analysis reveals the fact that the smaller acreage-group of cultivators are not in a position to be induced well to get the benefit of this opportunity. The reasons for this state of affairs have already been mentioned in the earlier analysis.

If we see the total percentage of cultivators of all the sample blocks in all the acreage-groups, we find that out of the total samples of 720, the cultivators who acquired bhumidari rights are 58.3 per cent. Cultivators who retained the status of sirdars are 38.9 per cent. This is an average result of the study undertaken to obtain the percentage of cultivators who acquired bhumidari rights and of those who preferred the status of sirdars.

Abolition of intermediaries has left mainly three types of cultivators. Out of these, two are more important

from the point of view of permanent and heritable rights. They are, in order of importance, Bhumidars and Sirdars. The survey of Package district cultivators revealed the fact that these two types of cultivators were not being dealt with in the same manner. The difference is that the Bhumidars can get loans from the co-operatives on the basis of their superior rights on land. But the Sirdars are to provide two sureties among the bhumidars, which is not so easy to obtain. While it was decided that all the cultivators whose farm production plans are prepared, will be distributed loans from the co-operatives without any preference and consideration of their rights. Not only this, but besides they also cannot draw as much amount as the Bhumidar. Therefore, they are in lose on two grounds, on the one hand they are considered as second rate cultivators and neglected and on the other, even if they somehow obtain the required sureties, they do get the loans but the amount is not equivalent to that of a Bhumidar.

Considering the situation, it is advisable either the status of sirdars should have been converted, which is impracticable in the prevailing circumstances, or the credit be issued strictly on farm production plan basis.

On the other side, the share-cropping still exist in the State. The absentee landlords earn their living with no capital investment on their land. This system is also called 'batai'. There is no record available of such

cultivators. They are just in contact with the landowners on the clear understanding that all the cost will be born by the batiadars. These share-croppers are not allowed to stay on land for a longer period lest they claim tenancy rights. That is why the landowners gives their land on 'batai' to only those on whom they have full confidence and faith. They are in fact rack-rented tenants-at-will. Sometime the share of the landowner is too high, and as the tenant is not in a position to prove his possession he is not able to obtain package of inputs. Even if the improved practices are available, he has to pay such a high share of his crop, that he has no inducement to invest when all his efforts will be going to the owner of the land.

CHAPTER - III

FARM PRODUCTION PLANNING IN THE PACKAGE PROGRAMME

Idea of Farm Planning:

The Intensive Agricultural District Programme has two related parts. One is the farm part, where farm production planning is introduced as a means of helping the cultivators move rapidly into the age of modern, scientific farming. If the cultivator adopts the farm production planning, his production will increase and he will reap the benefit of higher output and higher earnings. The other is the off-farm part, which includes, government policy, organization of staff and supplied of the farm inputs etc.

These two parts are being implemented as each other forms part of the same process. Alone, these are not enough to bring about a break-through. The other essential change must come on the part of the men who actually grow the crops, i.e., the cultivators. Unless the cultivators adopt scientific method of farming, the desired increase in agricultural production will not be forthcoming. A break-through to a wholly new level of food production

will depend on the carrying out of these two activities energetically and simultaneously.

Farm Planning will provide the pre-conditions which will make possible a break-through in agricultural production. It includes government policy which provides a favourable economic climate and the essential non-farm means of production. The important matters includes the new role assigned to the extension staff, the plan to develop really effective local farm credit, finding and distributing the essential supplies and the effective organisation and integration of the whole system.

Farm production plan is the method by which a break with the past in production technique is to be achieve. This farm planning process calls for four important things to be undertaken. Firstly, it calls for the extension workers to keep a close contact with the cultivator. Secondly it calls for the cultivator to begin with taking a new viewpoint about his agricultural production opportunities, i.e., the concept of production efforts which lies mainly to produce for home, should be changed and a foresight to produce for market developed. Thirdly, it requires that the extension worker and the cultivator should work closely together in the development of an improved farm production plan. And, lastly, it requires those in control of credit, supplies and other facilities to work closely with the

cultivator and the village level worker so that the improved production plan can be made fully effective.

Importance of the Farm Production Plan:

Farm production plan provides the essential process required so that the cultivators can increase agricultural production as well as his income to the maximum. It considers the whole range of resources and opportunities made available to him. Farm planning considers all those things which help the cultivators reach his production goals more promptly. The Farm Production Plan is a tool for the cultivator to use to make the process swift and effective. It provides a guide so that he can work out the best available plan for the period ahead. It also provides for considering new ideas, weighing new alternatives and making decisions. It is prepared for the cultivator with the help of the v.l.w., who helps the cultivator in the planning process but he cannot substitute the cultivator in making decision or in finalising the cultivator's plan.

Preparation of a farm production plan is a flexible and modern process. If systematically prepared, it will help the cultivator to produce with a different level of production potential. Being flexible, it can fulfil the requirements of the small as well as the big cultivator, the one with a limited background and experience and the other most advance.

It is a process that guides the cultivator towards the maximum use of his opportunities and resources whatever conditions may prevail. It deals with the opportunities and problems as they exist and aims at building the gulf between the potential and actual.

Process of the Farm Production Plan:

Process of Farm Planning starts from the appraisal of the present resources and the way they are being used by an individual cultivator on the one hand and of the opportunities that are around him on the other. As a combined approach it looks to the whole of the cultivator's opportunities, limitations and problems.

Preparation of the Farm Production Plan requires the help of trainined agricultural extension workers, who may work in the villages, and approach individual cultivators for the purpose of guiding them directly.

Purpose of Farm Production Plan:

Farm Production Plan helps the cultivator in understanding, selecting and making use of the economic and technical ideas, methods and practices being made available to him. The effectiveness of the farm production plan depends on the maximum supply of these basic approach elements. On the other hand, the larger the supply of these, the greater is the cultivator's need for farm planning.

The purpose of Farm Production Plan is to make the

fullest and most effective use of opportunities in his farming as they presently exist or may soon develop. Broadly, the purpose of farm planning is to encourage the use of agricultural resources, especially the scarce ones. To encourage means to get the most from the easily available, and out of that most efficient utilisation, both human and material.

In view of the scarcity of certain essential agricultural resources in the country, farm production planning has tremendous possibilities for making agricultural resources more effective. Farm Production Planning is not essential only for getting fertiliser, plant protection or other practices into use even though it will stimulate the use of these individual practices. On the other hand, it is the means by which the whole production process can be organised in the best possible way, the means by which the maximum output, not merely more output, can be obtained from the resources at hand.

Farm Planning and the Cultivator:

This approach aims to stimulate the cultivator's thinking and broaden his vision as a producer. Farm planning adds to his knowledge and understanding of the best production possibilities. It helps him select and adopt from among the improved ideas and methods, make good decisions, and fit the ones chosen into an improved farm

plan, and put his plan into effective use. It helps the cultivator appraise the results of the plan at the end of the production period and benefit by this experience in the future production process.

Farm Planning calls for certain requirements on the part of both the village level worker and the cultivator. For the village level worker, who assist with farm planning, it requires a full understanding of the farm as a unit and how a farm really functions, a knowledge of a whole range of resources and methods; those of typical farms; those external to them and the variety of ways that they may be fitted together; the knowledge and skill in actual farm planning and the ability to assist cultivator's plan effectively by using a planning budget. It requires the skill in helping the cultivator with his needs for credit, supplies, marketing, credit repayment, farm plan appraisal and the like, the skill in using new research information or knowledge from the specialised areas in farm planning.

Farm planning for the cultivator requires a desire to improve his own and his family's wellbeing and the appreciation that improved farming is a means to this end. It requires willingness of the cultivator to consider the changes in his farming and to co-operate with the farm planner in developing an improved farm production plan including that of considering various choices and making needed decisions and to put the plan use and accept the

consequences of his decisions. The cultivator should also appraise the results and use this as a guide for the farm planning in the future.

Farm and its close Understanding:

Village level worker and the agricultural specialists, having special training in the results of agricultural research and in extension methods, are to understand the farm and the cultivator as a total production unit and work with the cultivator on that basis. Farm Planning work cannot proceed smoothly and effectively without a full understanding of the farm.

These workers should be closely connected with the individual cultivator, as they predominate in the country because the emphasis is being given on the planning needs of the individual cultivator. As most of the individual cultivator will be adopting farm production plans of some kind whether traditional or progressive by nature. That means, he will decide how his land, capital and labour will be used during a given season, what he will produce and how to produce it. In deciding this he has the essentials of a farm plan. It is to be noted clearly that farm output is the result of a combination of resources, it is not the outcome of only one factor.

Moreover, two farms are not alike in all respects, they differ in size, soil and water resources etc. In the

same way, the cultivators too differ in their capability, knowledge and skill, in their capital position and in their access to to external resources. Both the cultivator and the village level worker should be aware of these things.

Estimation of the Resources at hand and of the Present Yield:

The village level worker and the farmer will have to be aware of the resources available to the cultivator, their present use and purposes they are serving. Two important questions are to be answered in this respect. Firstly, how much farm output is the present farm yielding and what are the resources being used to produce it. Secondly, how much gross and net output is possible under these conditions. The following points are to be kept in view to get the required answers.

1. The cultivator's age, experience, knowledge, ability, capacity and prejudices as a producer. What is he trying to accomplish; firmness of the cultivator's incentives; willingness to change; response to risk and putting new ideas to use.

2. The merits and limitations of the farm itself as a production unit, is it fragmented, its located, responsiveness to its soil, how far the irrigation is dependable and abundant, any special problems such as flooding, water-logging, erosion, alkalinity or the like; if so, how serious are these and how readily remidied.

3. The capital items being utilised by the cultivator, the way in which it is being used, the quality and conditions of the various capital items, such as power, machines, tools, productive livestock, buildings and irrigation facilities.

4. The position of the supply of labour during the cultivation, i.e., specially at the time of sowing and after harvesting; adequacy and uniformity of the supply of labour throughout the seasons and also the availability of the skilled labour.

5. Organisation of the present resources, the pattern of cropping and livestock; the level of output being reached; modern methods and improved agricultural practices being used.

From the above appraisal-norms, it is obvious that both the cultivator and the farm production planner will have to look at the cultivator's total operations from an analytical point of view and know about the resources in use and the extent of its accomplishment.

Estimation of the Resources External to the Cultivator:

In the process of farm planning consideration is also necessary to the resources external to the cultivator. The following may be taken in view for consideration:-

1. The resources which stimulate new ideas in the cultivator's mind, add to his knowledge or assist him in his farm planning. These resources include the local

village level workers who come into contact with the cultivator and the sources they use, the availability of demonstrations, whether formal (planned) or informal (successful results of other cultivators), the extent of assistance the cultivator gets from friends and neighbours after discussions of new ideas and methods.

2. Production items of current nature available for purchase; i.e., improved seeds, fertilisers, plant protection and the like. The cultivator wants to understand the likely response from different kinds, rate of use and so on.

3. Capital items vailable for purchase: bullocks, tools, machines, irrigation facilities, buildings, their cost, effect on output, how they substitute for other resources and the like.

4. Availability of land whether for sale or rent including its location, quality, price and terms on which it is available; availability of hired workers; age, sex, skills, time available and wage rate.

5. Market and storage facilities; availability and dependability of markets, costs of marketing, seasonality of prices, trends in demands.

6. Credit and credit institutions; nature and amount of credit available, cost, security required and limitations for credit.

Expected Change as a result of Farm Planning:

There are few distinct kinds of changes which may

occur after the implementation of farm planning. Firstly, specific methods and practices can be changed without changing the basic farm plan, i.e., variety or time of seeding, for example, the skill used in transplanting, irrigating, weeding and harvesting etc. Secondly, organization of resources can be changed, i.e., more of the higher income crops and less of the lower income ones, the fitting in of green manure crops, the greater use of double cropping, the importance given to livestock etc. Thirdly, the amount and use of outside resources brought in and greater use of improved seeds, fertilizer, plant protection, small tools, renting of additional land, hiring more labour.

The important change after farm production plan is to combine the best things of the present system with a wise selection of the new and then adjust the old and the new with a workable farm production plan, which may be done by the budgeting process.

Through budgeting the actual farm plan can be compared with other possibilities, it can also be compared with different combinations that is to be used. It gives the cultivator a chance to see more clearly how the proposed change affects other parts of the farming technique.

The Principle of Selection of the best Farm Production Plan:

There may be considered two main principles of the farm production planning through which a selection of new

and combining it with the old practices can be made, i.e.: (i) putting the resources (land, labour, water, capital, new purchases) to work in the farm production plan where they would likely earn the maximum return. If any one of them can be shifted so as to obtain a net gain as a result of being shifted, the good farm planner would make that shift before finalising the farm production plan; (ii) bringing in more outside resources and putting them to work as long as there is a net gain over their cost from doing so. This guiding principle will determine how far to proceed in the intensity of the farming business.

Moreover, consideration is also made to other principles which are also of important nature. The principles of diminishing returns, of substitution, of fixed and variable costs, and of risk and uncertainty are of much value in the farm production planning. They can be adjusted as a part of the former principles.

Farm Planning in IADP District:

After discussing the farm production planning in detail it is to be seen what is being implemented in this respect in the IADP district.

Farm Production Planning in the IADP has been phased into the following three stages:-[1]

(a) The first phase consists of implementing a simple farm production plan which emphasises the use of

1. Op.Cit. by ECAE, New Delhi, Chap.IV, p.119.

a "package of improved and tested agricultural practices" on major crops. For a majority of farmers who begin to move towards the scientific farming, this will be the first step.

(b) The second phase consists of further refining "the package of improved agricultural practices" and using them on all the crops and enterprises raised on a farm.

(c) The third phase sets out to develop full use of farming resources by working out the optimum combination as to enterprises, practices and methods. The implementation of this phase requires more and more research in the area of farm management. The extension workers during planning work will need additional training in farm management. A greater knowledge and appreciation of farm management principles, especially those of costs and return for enterprises, enterprise combination, comparative advantage in addition to responses of enterprises to different sets of practices will be required.

The Objective of the First Phase "Simple Farm Plan":

The objectives of a simple farm production plan may be described as:[1]

1. Ibid, p.20.

(a) It should be simple enough so that a large number of farmers will be able to understand and implement it;

(b) it should be such that would result in substantial increases in agricultural production even on very small holdings;

(c) it should be one that is easily understood by the extension workers, so that they can be of real help to the farmer;

(d) it should result in increased sale of crops and provide net cash income;

(e) it should be one that can be financed by the existing credit institutions, especially the co-operative societies; and

(f) it should result in a highly flexible farm organisation which will provide for further farm planning.

Emphasis in the First Stage of Simple Plan:

The major emphasis in the first stage of farm planning which has been attempted now in the package districts is to develop and implement a "package of improved practices" on important crops. This implies that[1]-

(i) The farm production plan (or crop plan) must

1. Ibid,p.20.

emphasise the added costs and the added returns for each crop due to improved practices. The cash costs and cash income needed to be stressed at this stage.

(ii) Production factors, such as improved seeds, chemical fertilisers, plant protection materials and others will be made available on the basis of the estimates worked out in the farm plan.

(iii) The co-operative societies are expected to provide the needed short-term production credit based on the production plan.

Basic Elements of the Farm Production Plan Proforma:

The farm production plan which is developed to suit the farming requirements of each homogenous area comprises the following elements.[1]

(a) An inventory of the resources;

(b) The present land use and cropping system;

(c) Improved production practices to be adopted;

(d) Production supplies that have to be purchased for cash;

(e) Production credit to be tied to the additional production due to improved practices and not to tangible security;

---

1. Ibid, p.21.

(f) Expected net returns;

(g) A repayment plan; and

(h) A credit application which links production requirements to credit needs.

The second stage in farm production planning in a IADP district, is not wholly different from the first stage in that, instead of concentrating on major crops only, all the enterprises and all the crop areas will be considered under the improved farm practices. Therefore, the difference between the first and the second stage is one of the degree of intensification of efforts rather than kind. The process of working out a more intensive process and covering more fully other stages of village development is being tried out in selected villages of the district.

Another effort being tried in selected villages puts emphasis on village-wide planning and development as well as full participation in farm planning and full use of the package of practices by every farmer. The villages in which this is being tried have been identified as IADP stage II villages. Stage II proforma which envisages the adoption of more advanced technique, has been taken up in the district of Aligarh from the year 1965-66 in 5 selected villages of each of the seventeen blocks. In the preparation of stage II farm production plans improved cropping patterns suited to local conditions,

recommendations of fertilisers on the basis of soil test results, and use of high-yielding varieties etc, are to be given special consideration.

This experimental programme has several objectives in mind for the villages involved. First, is to strengthen village leadership and through this leadership, together with extension assistance, to develop a broader plan for improvement. One effort in this direction is to have an improved farm plan for every farm in the village using the full package of improved practices on all major crops. A second is a plan to improve village institutions including the service co-operatives and to organise youth clubs and women's work. Third is the plan for improvement in the use of village-owned resources to increase production.

The working out of this programme has usually required the stationing of a village level worker, full time, in the village in its initial stages.

The third stage is really a detailed farm production plan or a complete budgeting approach which considers the whole farm as a unit of operation. The farmer may like to change his cropping programme with a view to having a better crop rotation. New and more repaying enterprises may have to be introduced in place of low income enterprises. This would definitely lead to move

specialised farming. The farmer would need to be informed of the research developments, development of new markets and the like in order to take advantage of the external economies.

Successful implementation of a detailed or complete farm plan would require a great deal of training on the part of the extension workers, who are to assist the farmers in taking the necessary decisions. Research data must also be made available to enable the cultivators to take decisions and the extension staff to advise them properly.

Farm Planning in Aligarh district - Survey Results:

The main objective of this enquiry is to find out the effects of Farm Production Plan on agricultural production and therefore the scope of the enquiry was exclusively confined to the area where the plan was put in practice. Villages were selected on the basis of sampling out of the four blocks of the district under the plan. The data was collected through a schedule about various facts closely connected with the plan and play a dominant role in the agricultural production and yield of crops.

The correlated responses of the cultivators about the plan have been presented in different tables to measure the effect of each individual factor separately

in a distinctive manner. The holdings of a cultivator possess much significance in all respects so far as the farm production plan and its practice is concerned and therefore an attempt has been made throughout the enquiry to assess the impact of all the contributing factors on cause and effect basis in relation to the holdings of the cultivators.

The percentages of responses of the cultivators varies under certains items to a great extent in comparison to the three acreage-group of cultivators. While in few cases these responses are more or less the same. The study reveals some important facts about the implementation and usefulness of the farm production plans.

It is quite understandable that the introduction of farm production planning in a package district means all the attempts for higher production are being made through systematic approaches and all the participating agricultural families, whose farm production plan have been prepared, would certainly draw benefits out of these efforts. But the data collected in this respect, i.e., the farming families who are having farm production plans and practising the techniques approved and recommended in their plans and those families who still don't have any farm production plan with them, shows what has actually happened in the district, on the basis of the results of the study of the selected villages, and tabled in the following pages.

Table No.2-1. - Incidence of Farm Production Plans on the cultivators of the sample villages of Dhanipur Block.

S. Nos.	Acreage-group.	Total No. of Culti-vators.	Cultivators having F.P. Plans		Cultivators not having F.P. Plans		Cultivators applied inputs, per Plan.		Cultivators applied inputs without Plan.		Crops selected per Plan.		Crops selected without Plan.		Effect of Farm Production Plan. Positive		Negative	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0-5	103	84	81.5	19	18.5	34	33.0	69	67.0	42	40.8	61	59.2	35	34.0	68	66.0
2.	5-10	66	47	71.2	19	28.8	25	37.9	41	62.1	31	43.9	35	36.1	27	40.9	39	59.1
3.	10 and above.	11	9	81.8	2	18.2	8	72.7	3	27.3	8	72.7	3	27.3	8	72.7	3	27.3
	Total:	180	140	77.8	40	22.2	67	37.2	113	62.8	81	46.7	96	53.3	70	38.9	110	61.1

The table on page 97 shows considerably varying responses from the cultivators in respect of their farm planning and its incidence on the use of inputs and their achievements. The responses of the cultivators in relation to their acreage-groups indicate a remarkable trend towards the implementation of farm planning for their holdings.

This can be seen from the table that the percentage of cultivators using farm production plans, in the first and third acreage-group is the same, while the percentage of the second acreage-group is lower by 10.0 per cent than the other two groups. The total percentage of the farm production plan holders in this block amounting to 77.8, is the highest among all the blocks included in the sample. This means that 22.2 per cent cultivators remained without any farm production plans and carried the cultivation on their own way.

It may be seen that the percentage of the cultivations making use of inputs as per farm plans, among all the acreage-groups, is substantially small. Only 33.0 per cent cultivators out of the small acreage-group used farm planning while the percentage of high acreage-group is appreciably very high, i.e., 72.7 per cent cultivators of big holdings applied farm planning. This means the farm planning scheme appears more benefitial and attractive to the farmers of big holdings than the small holding cultivators.

The percentage of the cultivators who selected the crops according to their farm production plans in all the

acreage-groups is very small. Even in the case of big cultivators only 72.7 per cent followed the crop pattern in accordance with the farm production plan under the highest acreage-group.

The effect of farm production plan in this particular block on agricultural production and its maximum usefulness seems to be confined to the third acreage-group containing cultivators of big holdings. This shows that the holdings of a cultivator play a key role in the implementation and adoption of the farm production plan and its effective usefulness. The holdings of a cultivator bears a positive correlation with the adoption and utility of the farm production plan. In other words, higher number of big holdings follows a higher response to the farm production plan and its utilisation giving maximum benefits to the farmers.

The findings of the enquiry in this respect shows that a large number of cultivators belonging to the lowest acreage-group are such who could not avail the opportunity of pushing their production to the level they also wanted but due to non-availability of the inputs being less resourceful they could not do so.

Table No. 2-2 - Incidence of Farm Production Plans on the Cultivators of the sample villages of Lodhan Block.

S. Nos.	Acreage-group.	Total No. of Cultivators.	Cultivators having F.O. Plans		Cultivators having no F.P. Plans.		Cultivators applied inputs, as per F.P. Plans.		Cultivators applied inputs, without F.P. Plans.		Crops selected as per F.P. Plans.		Crops Selected without F.P.Plans.		Effect of Farm Production Plan. Positive		Negative	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0-5	98	60	61.2	38	38.8	28	28.6	70	71.4	37	37.8	61	62.2	26	27.6	72	72.5
2.	5-10	69	41	59.4	28	40.6	29	42.0	40	58.0	38	55.1	31	44.9	26	37.7	43	62.3
3.	10 and above.	13	11	84.6	2	15.4	10	76.9	3	23.1	11	84.6	2	15.4	10	76.9	3	23.1
	Total:	180	112	62.2	68	37.8	67	37.2	113	62.8	86	47.8	94	52.2	62	34.4	118	65.6

The table on page 100 gives an account of the responses of the cultivators of Lodha block. A similar trend like Dhanipur block can be seen in the percentage of responses received from the cultivators in this block. 62.2 per cent cultivators of all the three acreage-groups have responded to the farm production plan scheme and adopted it by departing from the old system which they were following since generations back. They applied inputs but on a very small scale under the plan, i.e., only 37.2 per cent of the cultivators out of 180 cultivators applied inputs in their fields according to their farm production plans. The cultivators of the smallest acreage-group used minimum inputs. Whereas the big cultivators showed an extensive application of these inputs to their field very liberally.

The selection of crops made by the cultivators in this block under all the acreage-groups is 47.8 per cent according to their farm plans. The percentage of cultivators of acreage-group, who selected the crops as per farm plan is the lowest among all the blocks. While the percentage of cultivators in the other two groups on this point is higher than the former block, i.e. 55.1 and 84.6 per cent,respectively.

Here in this block the cultivators who got benefit by their farm plans is not high as is evident from the percentage of the three- acreage-group of cultivators who were benefitted by the farm plan is only 34.4 against 65.6 per cent non-benefitted cultivators. The benefitted cultivators number in the block is the smallest of all the other blocks picked up in the sample.

Table No.2-3 - Incidence of Farm Production Plans on the Cultivators of the sample villages of Jawan Block.

S. Nos.	Acreage-group.	Total no.of Cultivators.	Cultivators having F.P. Plans.		Cultivators having no F.P.Plans.		Cultivators applied inputs, as per F.P. Plans.		Cultivators applied inputs, without F.P.Plans.		Crops selected as per F.P. Plans.		Crops Selected without F.P.Plans.		Effect of Farm Production Plan. Positive		Negative	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0 -5	107	48	44.9	59	55.1	33	34.8	74	69.2	41	38.3	66	61.7	31	29.0	76	71.0
2.	5-10	57	39	68.4	18	31.6	23	40.4	34	59.6	32	56.1	25	43.9	22	38.6	35	61.4
3.	10 and above.	16	15	93.8	1	6.2	14	87.5	2	12.5	15	93.8	1	6.2	14	87.5	2	12.5
	Total :	180	102	56.7	78	43.3	70	38.9	110	61.1	88	48.9	92	51.1	67	37.2	113	62.8

The table on preceding page (102) stands for Jawan block. It indicates the percentages of the farm production plan holders of all the acreage-groups such as 56.7 which is lowest among all the blocks. The percentage of farm production plan holders in the lowest acreage-group is 44.9 which is also lowest in comparison to the cultivators of other blocks. The big cultivators constitute a percentage of 93.8 in this block which is next highest in all the other blocks.

So far as the response about the application of inputs is concerned, it may be seen that only 38.9 per cent cultivators applied inputs to their fields in all the acreage-groups. The percentage of such cultivators in the third acreage-group is 87.5 which is the next highest among all the blocks.

The percentage of cultivators who selected crops according to the farm production plan in the second acreage-group is 56.1 which is the highest among all the other blocks although a marginal increase is noticed in this group. 93.8 per cent responses of the cultivators in the third acreage-group also indicate the highest percentage in respect of the selection of crops as farm production plans among all the blocks.

So far as the benefitiality of the farm plans in this block is concerned, 87.5 per cent big cultivators are seen highly benefitted. The percentageof rest of the cultivators in the other acreage-groups is almost similar as that of the other blocks.

Table No.2-4 - Incidence of Farm Production Plans on the Cultivators of the sample villages of Sashi Block.

S. Nos.	Acreage-group.	Total Nos.of Cultivators.	Cultivators having F.P.Plans		Cultivators having no F.P.Plans.		Cultivators applied inputs, as per F.P.Plans.		Cultivators applied inputs, without F.P.Plans.		Crops selected as per F.P.Plans.		Crops Selected without F.P.Plans.		Effect of Farm Production Plan. Positive		Negative	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0 -5	115	81	70.4	34	29.6	48	41.7	67	58.3	62	53.9	53	46.1	47	40.9	68	59.2
2.	5 -10	57	43	75.4	14	24.6	27	27.4	30	52.6	39	66.7	19	33.3	25	43.9	32	56.1
3.	10 and above.	8	8	100.0	-	-	8	100.0	-	--	8	100.0	-	-	7	87.5	1	12.5
	Total :	180	132	73.3	48	26.7	83	46.1	97	53.9	108	60.0	72	40.0	79	43.9	101	56.1

The table on page 104 shows a quite different picture for all the responses of the cultivators in the Sasni block. The percentage of the farm plan holders here in the second acreage-group is 75.4. This is the highest percentage among all the blocks under this acreage-group. The third acreage-group shows that 100.0 per cent of the cultivators are holding the farm plans. This is a remarkable achievement in comparison with all the other blocks in the preparation of farm production plan.

Responses of the cultivators of this block in respect of the application of inputs as per farm plans show a superior position. As in all the acreage-groups, the percentage of cultivators who applied inputs is the highest among all the blocks, i.e., 41.7, 47.4 and 100.0 per cent,respectively. 46.1 per cent of all the cultivators applied inputs as per farm production plans in the block under study is highest among all the blocks.

The responses of the cultivators in respect of the selection of crops as per farm plans in the table indicate the highest percentages in all the three acreage-group, i.e., 53.9, 66.7 and 100.0 per cent, respectively. 60.0 per cent out of total cultivators selected the crops as per farm plans and it is the highest, percentage among all the blocks.

Although there is no remarkable increase in the percentage of cultivators who were benefitted by the farm plans in comparison to other blocks but the percentage of all the acreage-groups of this block is the highest, which is 40.9,43.9 and 87.5, respectively. The percentage of total cultivators benefitted under all the acreage-groups is also the highest.

Table No.2-5 Incidence of Farm production Plans on the Cultivators of the sample villages of all the four Blocks.

S. Nos.	Acreage-group.	Total No.of Cultivators.	Cultivators having F.P. Plans.		Cultivators having No F.P.Plans.		Cultivators applied inputs, as per F.P.Plans.		Cultivators applied inputs, without F.P.Plans.		Crops selected as per F.P.Plans.		Crops selected without F.P.Plans.		Effect of Farm Production Plan. Positive		Negative	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0-5	423	273	64.5	150	35.5	143	33.9	280	66.1	182	43.0	241	57.0	139	32.9	284	67.1
2.	5-10	249	170	68.2	79	31.8	104	41.8	145	58.2	139	55.8	110	44.2	100	40.2	149	59.8
3.	10 and above.	48	43	89.6	5	10.4	40	83.3	7	16.7	42	87.7	3	12.3	39	81.3	9	18.7
	Total :	720	486	67.5	234	32.5	287	39.9	432	60.1	363	50.4	354	49.6	278	38.6	442	61.4

The table on page 106 has been consolidated on the basis of responses from all the sample blocks. On examining the facts in respect of the cultivators and their respective farm production plan position, we find that the cultivators of small acreage-group are supported by these farm production plans at a lower percentage. While the percentage of other responses show that an increase in the acreage follows a simultaneous increase in the percentage of cultivators holding farm production plans. In the lowest acreage-group the percentage of farm production plan-holders is 64.5, whereas in the next higher acreage-group, the percentage is 68.2 and in the highest acreage-group, it is 89.6. The percentage of the total number of farm production plan holders out of the total cultivators in all the blocks is 67.5.

From the point of view of the successful implementation of the basic element of package programme, it is vital that the cultivators, irrespective of their holding size and status, be supported by the farm production plans. It is strange to note at this stage that such a high percentage of cultivators exists who are not holding the farm production plans at all. This is of course a sad picture which points out the defects and short-comings at the administrative level.

Similarly, the other more important side of the farm production plan is the application of inputs according

to the cultivators' farm production plans. The study reveals that even those cultivators who are holding farm production plans are not in a position of applying inputs as per their farm plans on account of non-availability of inputs and those cultivators who sufficiently applied inputs are in a small number. The study shows a tendency among cultivators of higher acreage-group to make much use of inputs in their fields under farm plan.

In the first acreage-group the percentage of cultivators who used inputs is 33.9, in the second acreage-group the percentage is 41.8 and in the third, it is 83.3, respectively. Only in the case of big cultivators we find that the percentage of the cultivators applied inputs is nearly equal to the percentage of farm production plan holders, in all the four blocks. By comparing the percentages of such cultivators according to their acreage-group status, we find that there is a relative decrease in percentage under each acreage-group. The overall percentage of the cultivators out of the total number of cultivators is also lower than the percentage of farm production plan holders.

Thus, we find that there is a large gap between the users of inputs and the farm production plan holders, especially in the first two acreage-groups. This means that the small cultivators are not well in a position to obtain

inputs even after the preparation of farm production plans, while the preparation of the farm production plan gives an assurance to the cultivators for the provision of inputs to the maximum. The farm production plan is prepared with the help of village level workers and therefore a promise is there of the supply of all the required inputs to those having farm production plans. The enquiry in this connection shows somewhat different picture. Village level workers have little interest in follow-up action to see how a cultivator is following the farm plan and what are his further requirements, especially of cultivators of small acreage-groups, who are supported by the farm plans. This is why the small cultivators applying inputs are in lower percentages.

The results about the selection of crops after the preparation of farm production plans are of interest and significance. There is a close relation between two facts. The crops are selected after the assessment of resources to be made available to the cultivators. What we find from the percentage of the responses in this respect, it is evident that the percentage of cultivators selected crops is higher than the percentage of the cultivators who applied inputs. The cultivators selected the crops according to their farm production plans but inputs were not made available to them as suggested in their farm plans.

The percentage response of the cultivators shows the same decreasing tendency in matters of selection of crops with reference to the acreage-groups, i.e., in the third acreage-group it is 87.7 per cent, in the second it is 55.8 per cent and in the lowest acreage-group the percentage is 43.0 per cent. It we examine the percentages of cultivators holding farm production plans, using inputs and selecting the crops according to the farm production plans in respect of the big cultivators, negligible difference in these percentages is noticed. Cultivators under this acreage-group are holding a higher percentage of farm production plans, applying inputs to the maximum and selecting the crops according to their farm production plans.

So far as the effect of farm production plan on the yield is considered, the analysis reveals the fact that majority of the cultivators are not being benefitted by the interduction of farm production plans. Especially, in cases of cultivators of small acreage-groups whose responses is very poor, i.e., only 32.9 per cent. There are 67.1 per cent cultivators who did not received any benefit after introducing the farm planning. If we have a look on the percentage of cultivators who are holding farm production plans, the percentage of such cultivators is high enough. On the other side, the responses of the

cultivators in respect of the benefits derived is quite different. The position of the cultivators under the second acreage-group is nearly the same. The benefit actually goes only to the big cultivators, 81.3 per cent of big cultivators are satisfied with the introduction of farm production plans in their way of cultivation.

Thus by examining the facts we understand that the farm production plan is no doubt benefitial but only to the big cultivators at large as they have sufficient resources at their disposal for obtaining the inputs to the maximim. The remaining number of cultivators under the other two-acreage-groups are not in such a gainful position in thisregard.

CHAPTER - IV

PERFORMANCE OF THE COOPERATIVE SOCIETIES IN ENHANCING AGRICULTURAL PRODUCTION:

Importance of Credit:

Credit is an essential tool for increasing agricultural production. When the progressive cultivators adopt methods of agricultural production which will result in high yields, they will need more production requisites, such as fertilisers, seeds, and pesticides, etc. They will have to purchase also improved tools and implements to prepare their land better and to plant, cultivate and harvest their crops in a more systematic and improved manner. These items will be paid for mainly through the sale of the additional production. Although some cultivators may have enough cash to pay for these things at the time they are required, most of them will be able to obtain them only on credit. Therefore, the credit is an essential tool for increasing agricultural production.

Cultivators' requirement of Credit:

The success of the Intensive Agricultural District Programme is dependent upon the facilities available for borrowing. Therefore, the credit extended to them in the district should be adapted to cultivators' needs.

Like other business enterprises the business of farming too has certain definite characteristics of its own. These should be taken into account in framing agricultural credit policies and practices that are helpful to the cultivator and safe for the lender. The following are some of the more important of these characteristics:-

1. Agricultural production is a biological process having its fixed seasons and time intervals between sowing and maturity.

2. Crop yields and their cost of production are influenced by unpredictable hazards, such as weather conditions, insects, diseases and predatory animals.

3. The farm business and the family business are usually so closely inter-mingled that the two cannot be separately

4. In India, the farm business is usually small, and after providing for the essentials of family living, the cultivator at present has little surplus left over for the repayment of debt or for spending it on other things.

5. The pattern of production in a given season, once started, cannot be materially altered. Once the time for

planting has passed, the cultivator is dependent upon the crops he has sown and he must nourish and protect them throughout the season if he is to reap a harvest from the investment of labour, land and capital.

Keeping in view the characteristics mentioned above, emphasis needs to be given specially on the following aspects of the credit supply to the cultivators:-

Time Consideration: Provision of credit be made at the proper time so as to use it properly. The seasons do not wait while credit decisions are debated or withheld. If credit does not reach the cultivator at the time of requirement for a particular production purpose, all the expectation in respect of the yield and profit of the season will be lost.

Credit to be provided be adequate: The amount of the credit advanced should be adequate to meet fully the production needs of the cultivator. If the loan is provided not to the extent required by the cultivator for his production plan[1] it would be more harmful to him than benefitial, since he must complete the production process or suffer a heavy loss.

Adaptability to the production pattern: Each farm production plan should be adapted according to the production and marketing pattern of the individual cultivator. Advances of

1. Report on IADP, by Economic Committee on Assessment and Evaluation, Ministry of Food and Agriculture, Govt. of India, New Delhi, 1960-65, Chap. VI, p. 36.

the loans should be made at the particular timings when they are required by the cultivator and recovery[1] at the time when his produce is sold. These things can be achieved best if the cultivator draws full production credit from the cooperative and sells it produce through a cooperative marketing society which will deduct the amount due on his loan from the proceeds of the sale and remit it to the primary credit society for which he has borrowed money. This link[2] between credit and the marketing society is considered to be essential for the effective production finance.

Flexibility in the Distribution: There are various difficulties and problems which are faced by the cultivator not only in the beginning but also in the process of production. Often just a little additional credit or a change in the timing of the advances save an entire crop, thus avoiding hardship for the cultivator's family and also prevent any difficulty at the time of the recovery of the loan. This is an important reason that the co-operative society should be able to perform the function of distribution[3] at any time during the production period. This naturally implies that the co-operative society should have enough staff capable of effectively attending to the

1. Ibid, p.36.
2. Ibid, p.36.
3. Ibid, p.36.

cultivator's interests throughout the period of farming.

Moreover, the consideration may be given to certain general principles of sound credit which are of special importance in agricultural financing. These should be carefully considered in formulating the credit policy and practice in the areas covered bynthe IADP. These can be described as follows:-

Collection ofthe Credit: This is an accepted principle that "soft" credit drives out sound credit. If the lenders become negligient in their collection policies[1] and procedures, borrowers loss respect for them and develop a reluctance to pay their debts. The collection policies, therefore, must be fair but firm and defaulters must be dealt with promptly. The credit should not be further extended to any cultivator who is known to be dishonest.

Time of the Repayment: On the other hand, to be helpful to the cultivator and to avoid any trouble for the co-operative society, loans should be made to mature when the cultivators are able to repay. Credit extended to the borrowers for production items, i.e., fertilizers, seeds, irrigation, labour, etc., should be repaid out of the sale of the produce.[2]

Credit given for durable capital items which are to last for several years or indefinitely, such as bullocks,

1. Ibid, p.36.
2. Ibid, p.36.

equipment, and land improvement, can be financed with medium or long-term credit. Credit for these purposes can be repaid from the increased production resulting over a period of years. The repayment period should be related to the life of the particular item for which the credit was made.

Credit for non-productive purposes: The loan for production purposes enables the cultivator to earn more and more income while credit for consumption goods adds only to his debts. Except for the essentials needed to maintain the family, no consumer credit is provided as a part of the intensive agricultural district programme. Besides, the additional earnings obtained through improved techniques adopted and the wise use of production credit makes it possible for the cultivators'family to afford more consumer goods and enjoy comfortably and a better standard of living without being indebted.

Supervision ofthe production credit: The credit for production purposes should be supervised properly,[1] It is necessary to be assured that the credit advanced to the cultivator is being used for the purposes intended and also to supervise that the repayments are made accordingly. This is an essential function of any co-operative society.

---

1. Ibid, p.37.

Security for the credit: In this respect the basic consideration is that a reasonable security is required to protect the co-operative societies against losses. Such securities are an assurance for the continuance of the co-operative societies and also increases the cultivator's feelings of responsibility toward his credit. Securities may be in one or a combination of several forms, i.e., personal sureties, marketing agreements, and the pledge of land, crops, moveable property etc. The IADP districts are advised to give short-term loans on surety basis with marketing arrangements, as the major portion of the cultivators in the district are small agriculturists requiring petty loans.

Opportunity to the cultivators due to adversity: If at any time adversity strikes a cultivator or his family which is beyond his control and due to which he is not in a position to pay back his loan as per planned, he should be given an opportunity to recover from the loss if possible. Some more time for repayment may be given on being satisfied that this is a genuine case and sufficient credit can be given to him to produce another crop if it appears that he will be able to repay the fresh loan and make a reasonable reduction on the previous loan. In such situations the managing committee of the co-operative society is on test and requires a helping attitude towards such cultivators.

Understanding of the transactions: When the credit is to be given, it is important that both the cultivator and the co-operative society clearly understand all the conditions that bear upon the transaction - the amount, the number of shares to be borrowed, the date or dates on which the loan will be advanced, the purposes for which the credit is to be used, interest rate, dates for repayment, and the penalties assessed for the non-payment when due.

It is also very important for the cultivator to understand that he is expected to pay off his short-term production credit for the season as soon as he disposes off his produce and to know when the instalments on medium-term loans are to be paid. In places where the credit and marketing are linked together effectively, the recommended procedure is for the marketing society, on the request of the primary credit society, to deduct the amount of these dues from the cultivator's receipts from sales of their produce.

Appraisal of the Repaying Capacity of the cultivator: The repayment capacity of a cultivator is the amount of money it will earn out of the season's production processes which will be available for the payment of debts. An estimate of the amount is possible by judging the total value of crops, livestock, and livestock products that are expected to be sold from the year's production, and deducting the estimated cash requirements of the cultivator's family

and cash production costs which are not included in the loan

The amount remaining after is the farm and livestock income available to the cultivator for the repayment of its loan obligations, including the short-term and medium-term loan instalments, and other debts.

This total represents the family's loan repayment capacity. This estimated repaying capacity, though it does not itself represent the amount of the credit the co-operative society will advance, in any case provides a basis for fixing this amount of loan. The co-operative society will be unwilling to advance the full total so estimated, but instead keep a reasonable safety margin against unforeseen difficulties in repayment. The amount of margin which is necessary varies with circumstances and is a matter of informed local judgment. This margin of safety in general is determined by the co-operative society after considering historical fluctuations of yields in the area, possible price changes, and other key factors. In individual cases, factors such as the social habits of the cultivators, will have to be taken into consideration.

Role of the Reserve Bank of India:

On the basis of the tentative estimates furnished by the State Governments[1], the additional short-term credit

1. Report of the First Conference on IADP, Govt. of India, Ministry of Food and Agriculture, Directorate of Extension, New Delhi, Dec., 1960.

required for the 100 blocks in the initial stage of the Package Programme for the seven selected districts was presumed to be of the order of about Rs.22 crores upto the fifth year of the Programme. For this purpose, "the apex co-operative banks, at the State level, could avail of special credit limits from the Reserve Bank of India on behalf of the Central Co-operative Banks, at the district level, operating in the Package areas against the respective State Government's guarantee".[1] In addition, the medium-term credit in these districts was estimated at about Rs.7 crores. While the entire short-term credit was expected to be provided by the co-operatives, the medium-term credit partly to be met by the co-operatives and partly through the loans extended by the Government under Grow More Food Schemes.

In the first instance, the Reserve Bank agreed to provide the additional credit in the seven Package Programme districts, on certain conditions of which the most important was that credit was to be channelled through co-operative credit institutions. In the Package districts while Reserve Bank did its utmost in assisting the Co-operative Banks and Societies to expand their activities and provide production credit requirements, steps were to be taken by the staff, that should production programmes were prepared

1. Op.Cit.,by ECAE,New Delhi,1961-63,Chap.VI,p.33

and carried out the cooperative structure on the other hand, takes such steps as are necessary to improve its strength in course of time to raise its resources in the normal way. This was to be achieved by increasing share-capital and becoming independent of assistance by the Reserve Bank.

It was pointed out that the Bank would look at at the scheme not from the point of view of security but as an effective scheme for increased production, executed in an efficient manner, able to fulfill its objectives and, therefore, enabling the prompt return of the loans granted.

In the context of more liberal credit it was also very important to ascertain that the loans would be repaid out of the real recoveries from the borrowers and not merely out of the further loans. It was considered necessary to frame realistic procedures which would ensure these objectives.

The main problem which needed attention to enable co-operative sector to play a much bigger part in agricultural development relates to organisational weakness of primary credit societies and in some States some of the higher institutions, provision of credit on the basis of ownership of land and and not on production requirements, uneven development of the cooperative societies, increasing trends of overdues, inadequate supply of credit to weaker sections of rural people and lack of proper arrangements for supervision.

Strengthening of the Primary Credit Societies:

In the intensive agricultural district programme credit is to be extended on the following basis to the cultivators:-

1. The amount of the credit sanctioned to an individual cultivator will be determined by his requirements as set forth in his individual farm production plan and it will be within his repaying capacity as determined by the plan.

2. Credit will be advanced both in cash and kind. Production supplies will generally be advanced in kind.

3. Credit will be advanced seasonally as required by the cultivators to carry out their production plans.

4. Recoveries will be made when farm produce is sold.

5. Through the combined efforts of the co-operative society, the Gram Sevak, the agricultural staff, the cultivators will be assisted in carrying out their plans and the loans will be supervised to see that the funds are used for the purposes intended and recoveries are made as planned.

6. Credit is an important production requisite and it is expected that improved credit practices would be adopted along with improved production practices.

If this plan is carried out, the credit and the marketing societies serving the cultivators will be able to perform their functions in a timely and proper manner. Credit is so inter-related with supplies and marketing that if

either the supply or the marketing function stops, the credit programme will also be stopped in its purpose of helping the cultivators increasing their production and income efforts.

In this connection, the emphasis is given on the strengthening of the primary societies which are the foundation stone of the co-operative credit system. They must be strengthened in all the areas, if the system is to fulfill the requirements of the cultivators in the intensive agricultural district programme.

Capable and sound leadership: For a successful primary credit society, a first and paramount requirement is a dedicated, capable and honest leadership. One or more persons are found with every successful credit society who generate the confidence, inspiration and enthusiasm necessary to make it run smoothly. On the other hand, lethargic and unsuitable leadership has caused number of societies to be stagnant and ineffective. Such societies cannot be revitalised merely by reorganisation, reduction of overdues, increase in membership and share capital, or change in the territory. They can be really revitalised only through the efforts of capable and respected local leaders who dedicate their services for the building up of a better society and a better standard of living for the people of their village.

Therefore, the most important phase of revitalisation is the seeking out and training of such leaders at all levels. Training programmes so arranged should stimulate enthusiasm, build leadership, define its responsibilities, and impart the fundamentals of co-operative organization to managers, managing committee members and board members.

Understanding to the members: A great deal of educational approach is to be made to the members to help them understand how their society functions, the services it can render, and the action of the members at the time of the protection of their society if due to some reasons it fails to function.

Economic Viability of the Credit Society:

For the society to be successful an important requirement is to have sufficient earning to meet its expenses and build financially through additions to reserves and for bad debt losses. The volume of business is an important element in producing income and building financial strength, but only the volume of business is not enough. There is to be maintained an adequate margin between the rate of interest at which money is made available to the co-operative society and on the other hand, the rate it charges from its members so as to produce the income required for strengthening the society.

It is quite obvious that the cultivators want interest rates to the lowest possible, but this is not desirable when they will be dealing with their own co-operatives, Thus, the society must be able to serve its members with interest rates which is competitive with those charged anywhere else, if it is to continue in operation, but at the same time margins must be maintained for an overall growth of the society.

When the society smoothly functions, there are various advantages to its members other than the lower rate of interest, i.e., proper accounting, dependability of service, easy availability of supplies, savings services, orderly marketing, pledge loans, etc. But all these advantages can be maintained only when sufficient margin is kept by the society to ensure its continuance. If a difference of one or two per cent in the rate of interest charged from the members is there, it makes no problem in their individual costs of farming, but it is conducive for the society.

Provision of Inputs and Financial Facilities to the Cultivators of Aligarh district through Cooperatives:

After discussing the importance of credit for the development of the agricultural economy and the related

matter, it becomes vital to bring into light the actual application of the same in Aligarh, which has a special significance being a 'Package district'. Therefore, in the forthcoming paragraphs an analysis of the sample survey conducted in the villages has been placed.

There are two types of tables included in this connection. One is related with the fulfilment of the farmers'requirements of inputs to the extent available, and the other is of the membership of the co-operative societies and the financial assistance given to the cultivators and what they obtained from other sources. In the next table, it has been kept in view to see whether the loans were spent on agricultural items or non-agricultural uses and whether the loans were paid at the time of maturing or after the due date.

Thus, there are two separate group of tables produced in this connection. Each one has its own importance. The maximum efforts are made not to leave any related enquiry, which could help in the correct approach of the implementation of the various credit schemes in the district.

The enquiry in this respect has shown a comparative picture of the three acreage-group of cultivators in different blocks.

TABLE NO. 3-1

Number and percentage of the Cultivators provided various inputs by the cooperative Societies in Dhanipur Block

S. N.	Acreage-group	Total No. of Cultivators.	Fertilisers				Manures				Seeds				Insecticides				Para Implements			
			Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	54	13	24.1	41	75.9	18	33.3	36	66.7	35	64.8	19	35.2	9	16.7	45	83.3	15	27.8	39	72.2
2.	5-10	39	17	43.6	22	56.4	28	71.8	11	28.2	31	79.5	8	20.5	14	35.9	25	64.1	19	48.7	20	51.3
3.	10 and above	8	5	62.5	3	37.5	7	87.5	1	12.5	8	100.0	-	-	3	37.5	5	62.5	7	87.5	1	12.5
Total:		101	35	34.7	66	65.3	53	52.5	48	47.5	74	73.3	27	26.7	26	25.7	75	74.3	41	40.6	60	59.4

Table on page 128 gives an account of the member cultivators who received inputs from cooperatives. The analysis of Bhanipur block shows that cultivators received fertilizers, in all the acreage-groups, are only 34.7 per cent. In the case of lowest acreage-group, i.e., 0-5 acres, only 24.1 per cent cultivators received fertilizers. The highest acreage-group is also not in a good position in obtaining fertilizers from co-operatives, who are 62.5 per cent.

The study of the other enquiry shows that 52.5 per cent cultivators received manures in all the acreage-groups. It is 17.8 per cent higher than the percentage of fertilizer. Here we find the supply of manures to the lowest acreage-group is 33.3 per cent and to the highest acreage-group 87.5 per cent. In the case of highest acreage-group, it is 54.2 per cent higher than the lowest acreage-group.

The supply of seeds to the cultivators of all the acreage-group is far better than the former two inputs. In the case of highest acreage-group all the cultivators received seeds from co-operative societies, 64.8 per cent cultivators in the lowest acreage-group received seeds. The supply of seeds is far higher than fertilizers and manures to the cultivators.

The percentage of the supply of insectisides to the cultivators is found lowest among all the inputs, i.e., 25.0 per cent as a whole. Even in the case of highest acreage-group only 37.5 per cent cultivators received insectisides, what can be said of the lowest acreage-group whose percentage is 16.7.

The percentage of the cultivators received farm implements is somewhat better, i.e., as a whole 40.6 per cent cultivators received farm implemnts in all the acreage-groups. Percentage of the provision of implements is the highest in this block.

TABLE NO. 3-2

Number and percentage of the Cultivators provided various inputs by the Cooperative Societies in Ledha Block

S. N.	Acreage group	Total No. of Cultivators.	Fertilizers				Manures				Seeds				Insecticides				Farm Implements			
			Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	35	8	22.9	27	77.1	16	45.7	29	54.3	27	77.1	8	22.9	5	14.3	30	85.7	9	25.7	26	74.3
2.	5-10	47	19	40.4	28	59.6	27	57.4	20	42.6	41	87.2	6	12.8	11	23.4	36	76.6	13	27.7	34	72.3
3.	10 and above	11	9	81.8	2	18.2	11	100.0	-	-	11	100.0	-	-	7	63.6	4	36.4	9	81.8	2	18.2
Total:		93	36	38.7	57	61.3	54	58.1	49	41.9	79	84.9	14	15.1	23	24.7	70	75.3	31	33.3	62	66.7

The study of Lodha block in respect of the supply of inputs reveals that if holds a superior position in comparison to Dhanipur block. 38.7 per cent cultivators received fertilizers in all the acreage-groups which is the highest in all the other blocks. The percentage of cultivators of the lowest acreage-group is 22.9 which is lowest in all the blocks under study. While the percentage of cultivators in highest acreage-group is next best to Sasni block.

The supply of manures to the cultivators of this block is comparatively better. As 100.0 per cent cultivators received manures in the highest acreage-group. The percentage of the lowest acreage-group is also next to that of Sasni block.

The study of the supply of seeds to the cultivators of all the acreage-groups shows that 84.9 per cent of them received seeds through co-operatives, which is the next highest percentage in comparison with the Jawan block. 100.0 per cent cultivators in the highest acreage-group received seeds in this block also.

The provision of insectisides to the cultivators of this block is on a very low level, i.e., 24.7 per cent cultivators in all the acreage-group received insectisides. The percentage of the lowest acreage-group is 14.3 which is the lowest among all the other blocks.

Percentage of cultivators received farm implements in this block is the lowest among all the other blocks, i.e., 33.3. 25.7 per cent cultivators in the lowest acreage-group received farm implements which is also lowest among all the blocks.

TABLE NO. 5.3

Number and percentage of the Cultivators provided various inputs by the Cooperative Societies in Jasan Block

S. N.	Acreage group	Total No. of Cultivators.	Fertilizers				Manures				Seeds				Insecticides				Farm implements			
			Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	65	19	38.4	46	61.6	27	41.5	38	58.5	54	83.1	11	16.9	18	27.7	47	72.3	21	32.3	44	67.7
2.	5-10	23	8	34.8	15	65.2	18	78.2	5	21.8	21	91.3	2	8.7	7	30.4	16	69.6	6	26.1	17	73.9
3.	10 and above	15	12	80.0	3	20.0	14	93.3	1	6.7	15	100.0	-	-	7	46.7	8	53.3	12	80.0	3	20.0
Total:		103	39	37.9	64	62.1	59	54.4	44	45.6	90	87.4	13	15.6	32	31.1	71	68.9	39	37.9	64	62.1

The study of the cultivators of Jawan block(on page 132) who received fertilisers shows a higher position than the other blocks. 38.4 per cent cultivators of lowest acreage-group received fertilizers which is the highest in all the blocks. The percentage of the cultivators in all the acreage-groups is next highest of Lodhan block, i.e.,37.9.

The percentage of cultivators in all the acreage-groups who received manures is 54.4 which is the next lowest among other blocks. It is noticed that 93.3 per cent cultivators of the highest acreage-group received manures in this block which is the next highest in comparison to Saani block. The percentage of the lowest acreage-group is 41.5. This is some what higher than the percentage of Dhanipur block.

Supply of seeds in this block is the highest to the cultivators. As in the lowest and the highest acreage-groups, 83.1 per cent and 100.0 per cent cultivators received seeds, respectively. The percentage of cultivators of all the acreage-groups is also the highest among all the other blocks, which is 87.4.

In case of the supply of insectisides it is noticed that 27.7 per cent cultivators of lowest acreage-group received insectisides, which is highest in all the blocks. The percentage of total cultivators received inputs is also the highest, i.e., 31.1.

The study of the supply of farm implements shows that in the lowest acreage-group it is highest,i.e.,32.3 per cent, among all the four blocks. In others, it is normally the same.

TABLE NO. 3-4

Number and percentage of the Cultivators provided various inputs by the Cooperative Societies in Sasmi Block

S. No.	Acreage group	Total No. of Cultivators.	Fertilisers				Manures				Seeds				Insecticides				Farm implements			
			Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	78	21	26.9	57	73.1	53	67.9	25	32.1	61	78.2	17	21.8	16	20.5	62	79.5	23	29.5	55	69.5
2.	5-10	44	19	43.2	25	56.8	31	70.5	13	29.5	39	88.6	5	11.4	13	29.5	31	70.5	19	43.2	25	56.8
3.	10 and above	8	7	87.5	1	12.5	8	100.0	-	-	8	100.0	-	-	6	75.0	2	25.0	7	87.5	1	12.5
Total:		130	47	36.2	83	63.8	92	70.8	38	29.2	108	83.1	22	16.9	35	26.9	95	73.1	49	37.7	81	62.3

The analysis of the provision of fertilisers to the cultivators of Sasni block shows that 87.5 per cent cultivators received fertilisers, which is highest among all the other blocks. The percentage of cultivators of lowest acreage-group is 28.9, which is next highest to thatof Jawan block. The percentage of cultivators in all the acreage-groups is 36.2 only.

In the case of the supply of manures, the percentage of cultivators of the lowest and the highest acreage-group is 67.9 and 100.0, respectively, which is highest among all the other blocks. The percentage of cultivators of all the acreage-groups is also highest of this block, i.e.,70.8. It means manures were easily made available to the cultivators of this blocks.

The percentage of cultivators of the lowest acreage-group who received seeds is 78.2 and 100.0 per cent in the case of the cultivators of the highest acreage-group. In this block, 83.1 per cent cultivators in all the acreage-group received seeds from co-operatives.

The study of the supply of insectisides shows that 75.0 per cent cultivators of the highest acreage-group received seeds which is highest in all the other blocks. But the supply to the lowest acreage-group is not upto the mark, so it is only 20.5 per cent.

The provision of farm implements is also highest in the case of the highest acreage-group,i.e.,87.5. While only 29.5 per cent cultivators of lowest acreage-group received farm implements. On the whole, 37.7 per cent cultivators in all the acreage-groups received farm implements.

TABLE NO. 3-5

Number and percentage of the Cultivators provided various inputs by the Cooperative Societies in all the Four Blocks

S. N.	Acreage group	Total No. of Cultivators.	Fertilizers				Manures				Seeds				Insecticides				Farm implements			
			Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied		Sufficiently supplied		Insufficiently supplied	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	232	61	26.3	171	73.7	114	49.1	128	50.9	177	76.3	55	23.7	48	20.7	184	79.3	68	29.3	164	70.7
2.	5-10	153	63	41.2	90	58.8	104	68.0	49	32.0	132	86.3	21	13.7	45	29.4	108	70.6	57	37.3	96	62.7
3.	10 and above	42	33	78.6	9	21.4	40	95.2	2	4.8	42	100.0	-	-	23	54.8	19	45.2	35	83.3	7	16.7
Total:		427	157	36.8	270	63.2	258	60.7	179	39.3	351	82.2	76	17.8	116	44.8	311	75.2	160	37.5	267	62.5

The analysis of results of all the four blocks in respect of the provision of inputs through the co-operative societies shows that the supply of fertilisers to the cultivators is low enough in all the blocks. It is noticed that only 26.3 per cent cultivators in the lowest acreage-group, i.e., 0-5 acres, received fertilisers. This percentage increased in the case of the cultivators of highest acreage-group only, ie., 78.6. While the percentage of middle acreage-group is only 41.2. The percentage of cultivators in all the acreage-groups is also poor, i.e., 36.8. It reveals the fact that small cultivators are not getting fertilisers from the societies so easily as the big cultivators. Although the big cultivators are also not getting to the full extent but comparatively their position is far better.

The results of the next enquiry brings into light certain facts about the provision of manures to the cultivators of the blocks under study. It is noticed that in the lowest acreage-group, i.e., 0-5 acres, 49.1 per cent cultivators received manures, while in the highest acreage-group, i.e., 10 and above acres, 95.2 per cent of them received manures. Although there is a wide gap specially between these two groups, but manures were made available to the cultivators of highest acreage-group to a greater extent. The percentage of cultivators received manures in all the acreage-groups is 60.7. This also shows a wide

gap in comparison to the supply of fertilisers.

Above all, the cultivators who received improved seeds through co-operative societies are highest in percentage in all the four blocks. Seeds were more easily made available to the cultivators than any other input. In the lowest acreage-group 76.3 per cent cultivators received improved seeds, which is highest percentage in all the inputs. In the middle acreage-group it is 86.3 and 100.0 per cent in the highest acreage-group. The percentage of cultivators in all the acreage-groups is also the highest i.e., 82.2.

The next enquiry in respect of the supply of insecticides gives a poor picture of all the blocks studies. It is noticed that in the lowest, middle and highest acreage-groups the percentages of cultivators received insecticides are 20.7, 20.4 and 54.8, respectively. The overall percentage of the three acreage-groups is also low enough i.e., 24.8. It means the supply of insecticides is the minimum in all the blocks.

The supply of farm implements in all these blocks is also not upto the mark. As 29.3 per cent cultivators received farm implements in the lowest acreage-group. The percentage of cultivators of the highest-acreage-group is quite high in comparison to the former group, i.e., 83.3 per cent. But the percentage of all the acreage-groups is 37.5 only.

TABLE NO. 4-1

Number and percentage of the cultivators who received Financial Assistance from Cooperatives and other Agencies. i.e. (local money lenders, big cultivators and relatives etc.) in Dhanipur Block

S. N.	Acreage group	Total No. of cultivators.	Cooperative Societies Members Cultivators		Non-member Cultivators		No.of Cultivators received loans in time		No.of Cultivators not received loans in time.		No.of Cultivators received loans from Coops.		No.of Cultivators received loans from others.		No. of Cultivators spent loan on Agricultural items		No. of Cultivators spent loan on Non-agricultural items.		Cultivators who paid back loans in time		not in time	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	103	54	52.4	49	47.6	11	20.4	43	79.6	19	35.2	84	81.6	37	35.9	66	64.1	21	20.4	82	79.6
2.	5-10	66	39	58.1	27	40.9	16	24.3	23	75.7	33	84.6	33	50.0	23	34.8	43	65.1	28	42.4	57	57.6
3.	10 and above	11	8	72.7	3	27.3	6	54.5	2	45.5	8	100.0	3	27.2	9	81.8	2	18.2	3	27.3	8	72.7
Total :		180	101	56.1	79	43.9	33	32.3	68	67.7	60	59.4	120	66.6	69	38.2	111	61.7	52	28.9	128	71.1

The examination of the enquiries of Dhanipur block conducted in respect of the financial assistance from co-operative societies and other sources to the cultivators and its use, reveals certain important facts. The first four items, i.e., 4 to 7, gives an account of the member and non-member cultivators. It is noticed that in all the three acreage-groups, the average percentage of the member cultivators is 56.1, which can be considered normally quite enough. But the percentage of the lowest acreage-group is much lower than the cultivators of the highest acreage-group.

In spite of the high percentage of the members of the co-operative societies, we find in the other enquiry under item Nos.8 to 11, the percentage of cultivators who received loans in time is quite low, i.e., it is 32.3. A wide gap exists between these percentages. What we find here is that the cultivators who received loans minimum are of the lowest acreage-group, i.e., 0-5 acres. While the difference between the lowest and the highest acreage-groups is as high as 34.1 per cent.

The next examination of the items Nos.12 to 15 shows that in all the acreage-groups, 59.4 per cent cultivators received loans from co-operatives. Item No.13 shows that there are 66.6 per cent cultivators who received loans from the sources other than the co-operatives. Under this item, the percentage is highest in the case of the cultivators of the lowest acreage-group. There is a relative

difference between the results of item Nos.9 and 13. Under these items the cultivators received loans, but in item No.9 it is noticed the time factor included in the enquiry.

The results of item Nos. 10 and 19 enquiries show the response of the cultivators in respect of the use of loans on agricultural and non-agricultural items. It is noticed that the percentage of cultivators using loans on agricultural items is highest in the third acreage-group, i.e., 10 and above acres, while the cultivators of the first acreage-group, i.e., 0-5 acres, used their loans minimum on agricultural items, i.e., 35.9 per cent. On the other hand, the position is vice-versa, i.e., the cultivators of the highest acreage-group using loans minimum on non-agricultural items and lowest percentage is found in the lowest acreage-group.

The enquiry in respect of the cultivators who paid back the loans in time and those who paid late shows that in the first acreage-group, 20.4 per cent cultivators paid loans in time and 79.6 per cent paid after the due date. While in the third acreage-group, 72.7 per cent cultivators paid their loans in time and 27.3 per cent after the due date. It reveals the fact that the cultivators of highest acreage-group are in better position to pay back loan than the cultivators of the lowest acreage-group.

TABLE NO. 4-2

Number and percentage of the Cultivators who received Financial Assistance from Cooperatives and other Agencies.i.e. (local money lenders, big cultivators and relatives etc.) in Lodha Block

S. N.	Acreage group	Total No. of cultivators.	Cooperative Societies				No.of Cultivators received loans in time		No.of Cultivators not received loans in time		No.of Cultivators received loans from Coops.		No.of Cultivators received loans from others		No. of Cultivators spent loan on				Cultivators who paid back loans			
			Members cultivators		Non-member Cultivators										Agricultural items		Non-agricultural items.		in time		not in time	
			Nos.	%	Nos	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	98	35	35.7	63	64.3	9	25.7	26	74.3	13	37.1	82	83.6	37	37.7	61	62.2	27	27.6	71	72.4
2.	5-10	69	47	68.1	22	31.9	8	17.1	39	82.9	22	46.8	55	79.7	25	36.2	44	63.8	20	29.0	49	71.1
3.	10 and above	13	11	84.6	2	15.4	3	28.3	8	72.7	11	100.0	7	53.8	12	92.3	1	7.7	11	84.6	2	15.4
Total:		180	93	51.7	87	48.3	20	21.5	73	78.5	46	48.4	144	80.0	74	41.1	106	58.9	58	32.2	122	67.8

The study of Lodha block reveals that under item Nos. 4 to 7, the percentages of the cultivators who are members of the co-operative societies in the first acreage-groups, is the minimum, i.e., 35.7 in all the other blocks under study. 84.6 per cent cultivators under the third acreage-group are members of the co-operative societies. The percentage of all the members in the three acreage-groups is also the minimum in this block, i.e., 517.

Analysis of the other enquiry shows that only 25.7 per cent cultivators in the first acreage-group received loans in time. It is noticed from the results of this block that 27.3 per cent cultivators in the third acreage-groups received loans which is the lowest position among all the blocks. Percentage of the total cultivators who received loans is also lowest, i.e., 21.5.

The study of the percentages of cultivators who received loans from co-operatives and other sources shows that in the highest acreage-group 100.0 per cent cultivators received loans from co-operatives while 37.1 per cent cultivators received loans from co-operatives in the lowest acreage-group. The percentage of cultivators in all the acreage-group is the lowest, i.e., 48.4 in this block. The percentage of cultivators who received loans from other sources leads among all the other blocks in all the acreage-groups.

The percentages of the other two enquiries in respect of the cultivators who spent loans on agricultural and non-non-agricultural items and the payment of loans made shows a marginal increase or decrease of percentages in comparison with the other blocks under study.

TABLE NO. 4-3

Number and percentage of the Cultivators who received Financial Assistance from Cooperatives and other Agencies. i.e (local money lenders, big cultivators and relatives etc.) in Jawan Block

S. N.	Acreage group	Total No. of cultivators.	Cooperative Societies: Members cultivators		Cooperative Societies: Non-member cultivators		No.of Cultivators received loans in time		No.of Cultivators not received loans in time		No.of Cultivators received loans from coops.		No.of Cultivators received loans from others		No.of Cultivators spent loand on: Agricultural items		No.of Cultivators spent loand on: Non-agricultural items		Cultivators who paid back loans: in time		Cultivators who paid back loans: not in time	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	107	65	60.7	42	39.3	9	13.8	56	86.2	34	52.3	89	83.2	58	54.2	49	45.8	47	43.9	60	56.0
2.	5-10	57	23	40.3	34	59.7	8	34.8	15	65.2	21	91.3	51	89.5	44	77.2	13	22.3	39	68.4	18	34.6
3.	10 and above	16	15	93.8	1	6.2	6	40.0	9	60.0	13	86.7	4	25.0	14	87.5	2	12.5	13	81.3	3	18.8
Total:		180	103	57.2	77	42.8	23	22.3	80	77.7	68	66.0	144	80.0	116	64.4	64	35.6	99	55.0	81	45.0

The percentage of cultivators under membership of co-operative societies in Jawan block, as shown in table No.5-3, in the lowest and the highest acreage-groups, is next to that of Sasni block, i.e., 57.2 per cent of the cultivators are members of co-operative societies among all the three acreage-groups.

The next enquiry shows that the cultivators who received loans in time from co-operative societies in all the acreage-groups, is 22.3 per cent, which is next lowest percentage in comparison to Lodha block. It is noticed that the percentage of cultivators who received loans not in time is quite high.

The analysis of item nos. 12 to 15 shows that 52.3 per cent cultivators, in the lowest acreage-group received loans from co-operatives, while the percentage of cultivators in the highest acreageg-group is 86.7. The study reveals that the percentage of the cultivators in middle acreage-group is the highest in this block, i.e., 91.3 per cent. In all the groups 66.0 per cent cultivators received loans from co-operatives. The percentage of cultivators who received loans from other sources in all the acreage-groups is the highest, i.e., 80.0.

The cultivators who spent loans on agricultural and non-agricultural items in the lowest acreage-group is 54.2. While 87.5 per cent cultivators are in the highest acreage-group. The percentage of total cultivators in all the acreage-group is 64.4 which is the next highest in comparison to Sasni block.

The percentage of cultivators who paid loans in time is the highest i.e.,43.9 in the first acreage-group and also in the case of total cultivators in comparison to other blocks.

TABLE NO. 4-4

Number and percentage of the Cultivators who received Financial Assistance from Cooperatives and other Agencies. i.e. (local money lenders, big cultivators and relatives etc.) in Sami Block

S. N.	Acreage group	Total No. of cultivators.	Cooperative Societies: Members cultivators		Cooperative Societies: Non-member cultivators		No.of Cultivators received loans in time		No.of Cultivators not received loans in time		No.of Cultivators received loans from coops.		No.of Cultivators received loans from others		No.of Cultivators spent loan on: Agricultural items		No.of Cultivators spent loan on: Non-agricultural items		Cultivators who paid back loans: in time		Cultivators who paid back loans: not in time	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	115	78	67.8	37	32.2	26	22.6	52	77.4	61	78.2	64	55.7	68	59.1	28	14.3	43	37.4	72	62.6
2.	5-10	57	44	77.2	13	22.8	31	70.5	13	29.5	38	66.6	29	50.9	41	71.9	13	22.8	34	59.6	23	40.4
3.	10 and above	8	8	100.0	-	-	7	87.5	1	12.5	8	100.0	-	-	8	100.0	-	-	8	100.0	-	-
Total:		180	130	72.2	50	27.8	64	49.2	66	50.8	107	82.3	93	51.7	117	65.0	41	22.8	85	47.2	95	52.8

The table on page 146 gives an account of the percentage responses of the cultivators of Saani block. Under item Nos.4 to 7, it is found that in the lowest acreage-group, 67.8 per cent cultivators are members of the co-operative societies and in the highest acreage-group the percentage is 100.0. The total cultivators under the membership are 72.2 per cent in this block which is highest in comparison to the other blocks.

The next enquiry shows that in the lowest acreage-group 22.6 per cent cultivators received loans in time, while in the middle acreage-group it is 70.5 and in the highest it is 87.5, which is the highest among all the blocks. The percentage of the total cultivators is also highest i.e., 49.2 in comparison to the other blocks.

The cultivators who received loans from the sources other than co-operatives in the lowest acreage-group are 55.7 per cent, which is lowest among all the blocks. There is no cultivator found in this block under the highest acreage-group getting loan from other sources. The percentage of the cultivators in all the acreage-groups is also the highest among all the other blocks, i.e., 82.3.

The study of the other enquiry shows that in the lowest and highest acreage-group 59.1 and 100.0 per cent cultivators used their loans on agricultural items which leads among all the other blocks. The percentage of the total cultivators is also the highest, i.e., 65.0.

The cultivators who repaid the loans in time are 100.0 per cent in the highest acreage-group in this block. The study of the above table signifies the fact that the cultivators of this block are getting benefit to the maximum from co-operatives.

TABLE NO. 4-5

Number and percentage of the Cultivators who received Financial Assistance from Cooperative and other Agencies. i.e. (local money lenders, big cultivators and relatives etc.) of all the four Blocks

S. N.	Acreage group	Total No. of cultivators.	Cooperative Societies: Members cultivators		Cooperative Societies: Non-member cultivators		No.of Cultivators received loans in time		No.of Cultivators not received loans in time		No.of Cultivators received loans from coops.		No.of Cultivators received loans from others		No.of Cultivators spent loans on: Agricultural items		No.of Cultivators spent loans on: Non-agricultural items		Cultivators who paid back loans in time		Cultivators who paid back loans not in time	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1.	0-5	423	332	54.8	191	45.2	55	23.7	177	76.3	127	54.7	319	75.4	200	47.3	204	48.2	138	32.6	285	67.4
2.	5-10	249	153	61.4	96	38.6	63	41.1	90	58.9	114	74.5	168	67.5	133	53.4	113	45.4	121	48.6	128	61.4
3.	10 and above	48	42	85.4	6	14.6	22	52.4	20	47.6	40	95.2	14	29.2	43	97.9	5	10.4	35	72.9	13	27.1
Total:		720	427	59.3	292	40.7	140	34.9	287	65.1	281	65.8	501	69.6	376	52.2	322	44.7	294	40.8	426	59.2

The table on page 148 gives an account of all the four blocks. The percentage responses in respect of the membership of the co-operative societies, we find 54.8 per cent cultivators in the lowest acreage-group, i.e., 0-5 acres. On an average it covers more than fifty per cent of the cultivators under the membership of co-operative societies. In highest acreage-group, i.e., 10 and above acres, it is noticed that 85.4 per cent cultivators are members of the societies. On comparison with the first acreage-group, it is revealed that the cultivators are higher by 30.6 per cent in the membership under this acreage-group. The percentage of members in all the acreage-groups out of the 720 cultivators is 59.3. The analysis of these responses gives a clear picture of all the four blocks and reveals that even now 40.7 per cent cultivators are left without membership of these societies.

The other related enquiry is of much importance. It is of no use to be only the members of the societies unless the requirements of the cultivators in respect of loan are fulfilled. In the next responses it is found that 23.7 per cent members received loans in time in the lowest acreage-group while 76.3 per cent members received loans after the need was over. On the other side in the case of highest acreage-group, 52.4 per cent members received loans in time which also not a good percentage. Considering the total members in all the acreage-groups, only 34.9 per cent cultivators received loans in time. Thus the overall position of the members received loans in time is bleak.

The next enquiry gives the percentages of these member

cultivators who received loans from the co-operatives after the actual need was over. 54.7 per cent members in the lowest acreage-group, 74.5 per cent in the middle acreage-group and 95.9 per cent in the highest acreage-group received loans from co-operatives. The percentage of the total members in this respect is 65.1. In all these groups, the percentage of members in highest group shows that they obtained maximum loan from co-operatives. On the other side of the enquiry, it is noticed that the cultivators who obtained loans from other sources are 75.4 per cent in the lowest acreage-group, while 29.2 per cent cultivators in the highest acreage-group took loans from other sources. This means that the cultivators in the lowest acreage-group are highly indebted and do not get loans easily from co-operatives.

Percentage of cultivators spending loans on agricultural items is very poor in the case of lowest acreage-group, i.e., 47.3, while it is 97.9 in the case of highest acreage-group. It means the cultivators of lowest acreage-group spend loans on other needs than agriculture more.

In the lowest acreage-group 67.4 per cent cultivators do not pay back the loans in time, the percentage decreases with the increase in the acreage, i.e., in the highest acreage-group defaulters are only 27.1 per cent.

CHAPTER - V

DISSEMINATION OF AGRICULTURAL KNOWLEDGE THROUGH SCIENTIFIC DEMONSTRATIONS:

Importance of Scientific Demonstrations:

Scientific Demonstrations are the means of convincing the farmer of the superiority of a recommended variety or practice. It is an effective way of conveying advice to him and creating in him a a desire to adopt the advice, on improved farming, promoting their acceptance and motivating them to use the technique involved for high rate of growth in agricultural production. The cultivator cannot be convinced unless the demonstration is held of any improved practice or method under the conditions of his field. Although all the Government farms adopt improved methods of cultivation and also improved varieties, the impact of these methods has not yet affected even the surrounding cultivators. Generally the cultivator feels that the Government, with their unlimited resources of finance and staff, can adopt methods which may not be practicable under the

limited resources of the cultivators. This is why in devising every demonstration the resources of the cultivators are to be taken into account.

These resources can be classified as financial, personnel and traditional. Under the financial resources his own financial stability and also the credit that may be available, either in the shape of short term, medium term or long term loans should also be assessed. Under personal resources the availability of personnel of management and also labour should be taken into consideration. There are practices in which the cultivators have acquired traditional skill from generation to generation.

Planning for Scientific Demonstrations:

(i) Location of the Demonstrations:

The location of the demonstration is a very important factor. Often the staff are found for laying out their demonstrations more on the road side than in the interior. But it is equally important that the demonstrations be held in a village which is situated in the central part of the block so as the cultivators may find it easy to visit. In the interior, the places for demonstrations should be selected as near as possible so that the cultivators are not prevented by long distances in visiting them and learning from them. By this constant and continuous observation of the demonstration from day to day it may leave some

lasting impression upon the minds of the cultivators.

(ii) Field for Demonstration:

The Agricultural Extension Officer has personally to see the selection because a certain method may not bring forth the desired results under high levels of fertility where the field has already reached the optimim conditions of production. Similarly, a very low level of fertility also may not give the desired condition for the effectiveness of the demonstrations. It is always safe to go for selection of medium fertility where the effects of any practice or method will be more visible. In this connection it is considered that the timely operations of the demonstration are of utmost importance. Sometime delayed operations will have the negative effect on the demonstrations.

Scientific Demonstrations are adopted on the several improved methods of agricultural operations. Each agricultural operation has an aspect which can be considerably improved.

Field Operations in Scientific Demonstrations:

Tillage Practice Operations: Generally the cultivators leave their fields after the harvest of the previous crop till the break of the monsoon or the sowing of the next crop. Ploughing immediately after the harvest improves the structure of the soil both for soil accretion and conservation of moisture. Besides, the land can be brought

into fit tilt very quickly during the monsoon. Similarly, in the method of tillage the usage of the various improved implements can also be demonstrated. However, all these should be taken up carefully with due consideration and regard to the local conditions of bullock power and climate.

Seed: Rate: The usage of the optimum seed rate alone can be taken as an improved practice demonstration. This demonstration brings out very good results with the cultivators since it saves a considerable quantity of seed, with higher yields. Every cultivator can easily save about 15 to 20 seers of seed with higher yields if the tilling is better under low seed rate conditions. In laying out such a demonstration the Agricultural Extension Officer should be careful of the local conditions such as the fertility of the fields. Under low fertility conditions he may have to use greater quantity of seed and also wherever natural calamities are expected, he should also see that the seed rate should be adjusted accordingly.

Green Manuring Demonstrations: Green manuring is also a practice demonstration which can be introduced in different areas with considerable success. For this purpose, when the green manuring demonstrations are laid out, it is necessary that green manuring seed production part also should be integrated as a part of the green manuring demonstration as the latter forms the source. This demonstration should be taken up in gradual stages also.

Sowing period demonstrations: By slight variations in the sowing period some natural calamities can be averted. This also can be taken up as a practice demonstration.

Practice demonstrations on inter-cultural methods: These may be taken up with the various improved implements which are being devised from time to time. These demonstrations can impress the cultivators in regard to labour saving devices and thus saving the expenditure. When laying out practice demonstrations on the inter-cultural methods the economy of expenditure by the usage of the modern implements also should not be lost sight of.

Fertilizer demonstrations: The fertilizer demonstrations also are a type of practice demonstration to bring about the application of fertilizers with two important factors such as the time of application and the dosage of application. Thus whenever a locality requires a particular improved practice, that practice should be taken from a comprehensive programme with the emphasis on the practice. Hence the practice demonstration should be of a specific nature according to the requirements of the local conditions.

Cropping pattern demonstrations: Introduction of new crops or the changing of the existing pattern of crops is also a practice demonstration which has far reaching effects on the minds of the cultivators. The introduction of

second crop is the standing example for the same.

Thus, scientific demonstrations are most essential for the correct usage of various improved practices to enhance the agricultural production by the farmers. The steps to be taken out in this regard for the benefit of the rural people are the following:-

1. Laying out of 'composite demonstrations' involving all recommended practices as distinguished from 'single factor' demonstrations involving only one improved practice.

2. Plan of demonstrations be drawn up jointly by the research and extension staff based on the results of trials already conducted.

3. Specific schedules of improved practices for each crop and for each tract in the district should be got prepared by the research staff at least three months in advance of each crop season.

4. Each village level worker will be assigned to carry out two or three such composite demonstrations. The staff at the block level as well as at the district level would also be made responsible for directly carrying out one or two demonstrations each, in addition to the supervision over the demonstrations laid out by the village level workers. Similarly, the technical staff of Agricultural Colleges, research station, extension training centres and

demonstrations farm, if available, should also be asked to lay out a few demonstrations.

5. The demonstrations should be laid on the fields of progressive cultivators having average size holdings.

6. Advance arrangements should be made for timely supply of seeds, fertilizers, equipments etc., needed for laying out demonstrations.

7. It was ensured that demonstrations are laid out under the personal supervision of the concerned staff and not left to the cultivators.

8. Follow-up of these demonstrations from beginning to the end should form an important part of the programme.

9. Adequate publicity of these demonstrations was decided to be arranged specially at critical stages. Farmers will be brought in groups to the demonstration plots and the economics and the net increase in production explained clearly to the farmers on the completion of each composite demonstration and the results published.

For popularising the recommended practices a net work of composite demonstrations was taken up on the suggestions of Government of India[1] beginning from kharif season 1961. These demonstrations were conducted on important crops both during kharif and rabi seasons. The number of composite demonstrations was limited to 4 or 5 per

---

1. Report on IADP, Project Office, Aligarh, 1961-64, pp.12-13.

worker only covering one special demonstration on potato or sugarcane crop.

On the recommendations of State level experts the first set of package of practices in Aligarh[1] was developed during 1961-62 for being implemented during 1962-63. It was further improved upon on the basis of experience gained in the field and discussions held in seminars.

The object of the composite demonstrations from the year 1966-67 was inclusive of improved crop rotation, high-yielding varieties, optimum doses of fertilisers and more use of plant protection practices.

Survey Analysis:

The results of the few questions asked from the cultivators for the knowledge of scientific demonstration and and profitability of farming are in the tables drawn for the purpose. The examination of the tables given on the following pages shows the number and percentage of the cultivators who visited the fields in the villages where scientific demonstrations were conducted.

The responses of the cultivators in this respect varies as per their holdings and the knowledge, skill and understanding of the individual farmer and also block to block under study. Therefore, the study of each block shows a different picture, although to some extent in certain responses the similarity is found. What is generally found in all these results reveals that similarity is found not in the cultivator of lowest and highest acreage-group, but of the same category of cultivators.

Table No. 5-11

Number and Percentage of Cultivators visited Demonstration Plots and their consideration on the profitability of farming. of Bhanjpur block.

Sl.Nos.	Acreage-groups.	Total No. of Cultivators.	Cultivators visited Demonstration Plots.		Cultivators not visited.		Cultivators considered farming more profitable.		Cultivators considered farming less profitable.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	103	71	68.9	32	31.1	68	94.4	4	5.6
2.	5-10	66	54	81.8	12	18.2	49	74.2	5	25.8
3.	10 and above.	11	10	90.9	1	9.1	10	100.0	-	-
	Total:	180	135	75.0	45	25.0	126	93.3	9	6.7

The table on page 159 gives an account of the cultivators of Dhanipur block. It is noticed that 68.9 per cent cultivators in the lowest acreage-group visited the demonstration fields, and 81.8 per cent cultivators visited such fields in the middle acreage-group. In the case of highest acreage-group we find that 90.8 per cent cultivators visited to these demonstration fields. In all these acreage-groups nearly 10.0 per cent increase is found, which is not of much significance as it shows the interest of the cultivators according to their understanding and will.

The next enquiry in respect of the cultivators appreciation and understanding of scientific cultivation, it is found that in the lowest acreage-group, 94.4 per cent cultivators considered farming more profitable, while the percentage of the cultivators in this acreage-group, who visited demonstration plots is 68.9 per cent. It means that most of these cultivators are quite advance in this acreage-group.

The cultivators of middle acreage-group are, on the other hand, very few, in comparison to the lowest acreage-group, i.e., 74.2 per cent who supported this statement. While 100.0 per cent cultivators in the highest acreage-group are found considering farming more profitable in case of scientific cultivation.

Table No. 5-2:

Number and Percentage of Cultivators visited Demonstration Plots and their consideration on the profitability of farming. of Lodha block.

S.Nos.	Acreage-groups.	Total No. of Cultivators.	Cultivators visited Demonstration Plots.		Cultivators not visited.		Cultivators considered farming more profitable.		Cultivators considered farming less profitable.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	98	89.8	89.8	10	10.2	79	89.8	9	10.2
2.	5-10	69	48	69.6	21	30.4	41	85.4	7	14.6
3.	10 and above.	13	11	84.6	2	15.4	11	100.0	-	-
	Total:	180	147	81.7	33	18.3	131	89.1	16	10.9

The analysis of the table on page 161 gives an account of the cultivators of Lodha block. It shows that 89.8 per cer cultivators in the lowest acreage-group visited demonstrations fields undertaken in the nearby villages. This is the highest percentage of cultivators in comparison to all the other blocks under study. On the other hand, 69.6 per cent cultivators are found in the middle acreage-groups who visited these demonstration fields, which is the lowest percentage among all the blocks.

In the case of the cultivators of highest acreage-group, it is found that 84.6 per cent cultivators of this block visited these plots. This is also the lowest in all the other blocks. It reveals that only the cultivators of the lowest acreage-group in this block visited in highest number.

The enquiry in respect of the cultivators preference for the scientific farming it is noticed that 89.8 per cent cultivators in the lowest acreage-group gave preference to this idea, while the percentage of cultivators of the middle acreage-group is less than the former percentage. But the case of the cultivators of highest acreage-group is quite different, i.e., the cultivators visited demonstration fields in less number, while considered farming more profitable in highest number, i.e., 100.0 per cent.

Table.No. 5-3:

Number and percentage of Cultivators visited Demonstration Plots and their consideration on the profitability of farming. of Jawan block

S.Nos.	Acreage-groups.	Total No. of Cultivators.	Cultivators visited Demonstration Plots.		Cultivators not visited.		Cultivators considered farming more profitable.		Cultivators considered farming less profitable.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	107	86	80.4	21	19.6	80	93.0	6	7.0
2.	5-10	57	51	89.5	6	10.5	48	94.1	3	5.9
3.	10 and above.	16	14	87.5	2	12.5	14	100.0	-	-
	Total:	180	151	83.8	29	16.2	142	94.0	9	6.0

The study of Jawan block tabled on page 163 shows that 80.4 per cent cultivators, in the lowest acreage-group visited demonstration fields, which is the next lowest percentage in comparison to the Dhanipur block. But 87.5 per cent cultivators of the middle acreage-group visited the demonstration fields, which is the highest percentage in comparison to all the four blocks. This percentage is even higher than the percentage of the cultivators of the highest acreage-group.

In the case of the highest acreage-group, it is noticed that 87.5 per cent cultivators visited these demonstration fields. This is the next lowest percentage in comparison to the other blocks under study.

The next enquiry in respect of the cultivators understanding and consideration in favour of the scientific farming, it is found that 93.0 per cent cultivators in the lowest acreage-group, are in support of the new methods of cultivation. The percentage of the cultivators in the middle acreage-group is 94.1 which is the highest in comparison to the other blocks.

The study of the cultivators of highest acreage-group shows that 100.0 per cent cultivators in this block consider new methods of cultivation more profitable. It means that the cultivators of this block are well aware of the results of intensive approaches in farming.

Table No. 5-4:

Number and perce-ntage of Cultivators visited Demonstration Plots and their consideration on the profitability of farming of Saani block

S.Nos.	Acreage-groups.	Total No. of Culti-vators.	Cultivators visited Demonstration Plots.		Cultivators not visited.		Cultivators considered forming more profitable.		Cultivators considered forming less profitable.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	115	93	80.9	22	19.1	82	88.2	11	11.8
2.	5-10	57	49	85.9	8	14.1	44	89.8	5	10.2
3.	10 and above	8	8	100.0	-	-	7	87.5	1	12.5
	Total :	180	150	83.3	30	16.7	133	73.8	17	26.2

The examination of the table of Sasni block given on page 165 shows that in the lowest acreage-group, 80.9 per cent cultivators visited demonstration fields, which is the next highest percentage in comparison to the other blocks under study. Considering the middle acreage-group cultivators, it is noticed that 85.9 per cent of them had a visit to these plots, which is also the next highest percentage in all the other blocks.

The study of the cultivators of highest acreage-group shows that 100.0 per cent cultivators in this block visited the demonstration fields. The cultivators of this block leads among all the four blocks. It means all of them got an opportunity and interests to know about the latest techniques being adopted in cultivation.

The enquiry in respect of the cultivators who considered the latest techniques in farming more profitable are 88.2 per cent in the lowest acreage-group, which is the lowest percentage among all the blocks under study. The percentage of the middle acreage-group of cultivators is marginally high i.e., 89.8 per cent.

The study of the highest acreage-group of cultivators reveals that while 100.0 per cent of them visited demonstration fields, 87.5 per cent cultivators considered farming in this direction more profitable. This is the unique case under this acreage-group in this block.

Table No. 5-5: Number and Percentage of Cultivators visited Demonstration Plots and their consideration on the profitability of farming of all the four blocks.

S.Nos.	Acreage-groups.	Total No. of Cultivators.	Cultivators visited Demonstration Plots.		Cultivators not visited.		Cultivators considered farming more profitable.		Cultivators considered farming less profitable.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	423	338	79.9	85	20.1	308	91.1	30	8.9
2.	5-10	249	202	81.1	47	18.9	182	90.1	20	9.9
3.	10 and above.	48	43	89.6	5	10.4	42	97.9	1	2.1
	Total :	720	583	80.9	137	19.1	523	73.9	51	26.1

The analysis of the table on page 167 gives an account of the cultivators of all the four blocks under study. It is examined that 79.9 per cent cultivators, in the lowest acreage-group, ie., 0-5 acres, visited demonstration plots, while 20.1 per cent of them did not visit any such plots. So is the case of the middle acreage-group, i.e., 81.1 per cent cultivators visited such plots. The surprising results are in the case of cultivators of highest acreage-group which shows that 89.6 per cent of them had visit to such demonstration plots, whereas the percentage of this group of cultivators should have been hundred. It means that the cultivators of this group are aware to a great extent of the performance of the techniques being adopted in the cultivation.

The results of the next enquiry are interesting to note. In the lowest acreage-group, 91.1 per cent cultivators considered farming more profitable, on such improved practices, in respect of the scientific technique in farming. This percentage is higher than the percentage of cultivators visited demonstration plots. It means that many of these cultivators understand the advantage of scientific farming beforehand.

In the same way, 90.1 and 97.9 per cent cultivators of the middle and the highest acreage-group, respectively, are in favour of the scientific way of cultivation. In all these groups a minor percentage of cultivators is such who do not consider scientific farming more profitable.

CHAPTER - VI

LIVESTOCK, IRRIGATION AND OTHER BENEFITS OF THE PACKAGE PROGRAMME.

Animal Husbandry Programmes:

Under animal husbandry such programmes have been included which will contribute immediately to increase the income of the cultivators through the improvement of livestock, poultry, piggery and fodder development. Aligarh district enjoys a very advantageous position being close to Delhi and having three big commercial enterprises, viz., Central Government Dairy Farm, Glaxo Laboratories and Co-operative Milk Union, Aligarh. Nearness to Delhi is very conducive to increase the production of poultry and eggs. The intensification of the following animal husbandry programmes alongwith the district activities of animal husbandry are taken up under IADP[1], Aligarh:-

---

1. Project Office Progress Report on IADP, Aligarh, 1961-64, Chap.III, pp.34-35.

1. Cattle Development: To meet the shortage of improved sires, the intensification of A.I. programme has been taken up. For this a semen collection centre has been opened at project headquarter from where the semen is catered to 18 A.I. centres and sub-centres in the district. One Bull Extension Centre with eight units, at the rate of 5 bulls per unit, has been functioning from January,1959 in Tappal block for natural service. To augment the artificial insemination programme, the semen collection centre was started from 14.5.1963, which regulates the semen supply. To prevent the valuable livestock of the villagers against common contagious diseases, prophylactic vaccinations were done.

2. Fodder Development: In order to have adequate nutritive fodder for the animals, fodder crops in said, kharif and rabi seasons have been included in this programme. For this seed of Lobia, Guar, Maize, M.P. Chari, Makchari, Barseem, oats, lucern and seed material of perfunial grasses like pusa giant, naiper, para and guinae grasses are supplied on subsidised rates to the cultivators from block budgets. For said fodder subsidy for irrigation is also promised.

3. Poultry Development: Under IADP this programme has been intensified and particularly in one selected block Gangiri under the technical guidance of Dr. Earl N.Moor, Consultant, Livestock and Poultry, Ford Foundation,New Delhi.

Under this scheme, the construction of improved cheap deep litter poultry houses, supply of day old chicks and two months old chicks, custom hatching, training of poultry breeders, preventive vaccinative vaccination against R.D.& F.P., supply of brooding equipments and formation of co-operative poultry marketing societies in the block are considered necessary and have been taken up. For all the above activities technical help and subsidy is given from block. For supply of pure bred chicks and eggs one poultry extension centre has been opened at the project headquarters.

4. Piggery Development: The existence of Bacon Factory at the CDF Aligarh gives the additional charm for improving this industry. For this a piggery development block is functioning in the district. In addition to this training in pig husbandry is also given at CDF, Aligarh.

5. Fisheries Development: The fisheries development work was undertaken in the year 1961-62 in the district. The work was started in the small reservoirs and ponds which had hitherto been lying unutilised and were contributing nothing to the revenues of Gaon Samaj.

Irrigation Programmes: (Minor Irrigation)

Minor irrigation constitutes one of the most significant fields of development under the agriculture sector. It's importance in increasing food production within a short time is fully realised. Amongst its several advantageous

features, the most important has been that work can be conceived and handled to a large extent by the cultivators themselves.

Improvements in the efficiency and effectiveness in water management by cultivators offer scope for increasing agricultural production. The unfavourable water conditions that presently exist in some of the package districts limit the effectiveness of improved seeds, fertilisers, plant protection and other elements in the package of improved agricultural practices. It was proposed that in the package districts, a beginning should be made in demonstrating sound and practical methods for solving farm irrigation and drainage problems and providing on-the-ground training and experience in water management to extension staff.

For this purpose, a scheme was drawn up and circulated to the States.[1] The initial phase of this scheme envisaged the laying out of a few pilot demonstrations on proper farm irrigation and drainage practices in each district.

The IADP experience has shown that the present water distribution policy needs a major revision of the efforts made to improve the present practices of water use and management have to be fruitful. Most of the irrigation works are not designed for productive irrigation, they are only

---

1. Op.Cit., Ease, New Delhi, 1961-63, Chap.V, p.32.

protective in nature and the water distribution system is also not scientific. In many areas, the distribution of irrigation water is controlled on the basis of the requirements of traditional low-yielding crops and their husbandry practices. This kind of water management and distribution had come in the way of adoption of high-yielding crop systems by the farmers in many areas.[1]

Drainage Problems of the Aligarh district:

Bad drainage continues to be the biggest hurdle towards the real progress not only in increasing the agricultural production but is also keeping down general efficiency of all the human efforts made in this regard. Every year over a lac acres of land gets sub-merged[2] under water resulting in complete destruction of crops and waste of six months labour. The existing drainage system needs to be remodelled drastically as well as extended. The three sorrow rivers which have become in fact the useless rivers of the district also need remodelling.[3] Due to large scale silting their beds have become high and they are not capable of carrying water all the time that is drained into them with the result that water is flown back and thousand of acres of land as well as a number of villages get flooded. In case any success is desired through IADP it is a must item to be given top priority.

---

1. Op.cit., ECAE, New Delhi, 1966-67, Section X, p.17.
2. Op.cit., Project Office, Aligarn, Chap. III, 1961-65, p.29
3. Ibid, p.29.

Survey Analysis in respect of the Livestock and Irrigation facilities extended to the cultivators:

The examination of the tables given on the following pages gives an account of the various responses of the cultivators, i.e., cultivators having improved animals and ordinary animals; received financial assistance in this respect; number of cultivators getting insufficient water from canal and the other sources; and the cultivators depending mainly on rains and others having their own sufficient resources for irrigation purposes; and, finally, the cultivators able to utilise inputs in the way these are suggested in their farm production plans. Percentage responses of the various enquiries, i.e., cultivators who are able to increase the yield as well as production of additional crops after the use of new inputs; cultivators able to raise three or four crops in a year; the cultivators who obtained inputs on higher rates, and the overall facilities given to the cultivators in respect of the intensive efforts being made to grow more food.

The analysis of the data collected is produced itemwise keeping in view the variation in percentage responses of the cultivators in each block. Simultaneously, the analysis shows a comparative study of the blocks so as to give a clear picture of each block.

Table No. 6-1: Number and Percentage of the Cultivators having Livestock facilites in Dhanipur block.

S.Nos.	Acreage groups.	Total No. of Cultivators.	Cultivators Having Improved animals.		Cultivators Having Ordinary animals.		Cultivators Receiving financial assistance		Cultivators Receiving no financial assistance	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	103	7	6.8	96	93.2	4	3.9	99	96.1
2.	5-10	66	12	18.8	9	88.5	57 9	88.6	57	86.4
3.	10 and above.	11	7	63.6	4	36.4	6	54.6	5	45.4
	Total:	180	26	14.7	154	85.3	19	10.6	161	89.4

Table No.5.-1 : Number and Percentage of the Cultivators having Irrigation facilities in Dhanipur Block.

S. Nos.	Cultivators Utilising insufficiently water from Canal		from other sources.		Cultivators depending mainly on rains.		Cultivators having own sufficient sources.	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1.	2	3	4	5	6	7	8	9
1.	81	78.6	76	74.8	97	94.1	6	5.9
2.	66	84.8	52	78.8	48	72.7	18	27.3
3.	7	63.6	3	27.3	3	27.3	8	72.7
Total:	144	80.0	131	72.8	148	82.2	32	17.8

The enquiry in respect of the cultivators having improved and ordinary livestocks shows that in the lowest acreage-group only 6.8 per cent cultivators have improved animals. This is the lowest percentage in comparison to all the other blocks. While on the other side, 93.2 per cent cultivators still keeping ordinary animals in this acreage-group, which is just reverse, i.e., the highest percentage of these cultivators in all the blocks under study.

The examination of the middle acreage-group reveals that to some extent the percentage of cultivators with improved animals is increased i.e., 18.2 per cent of them keeping the superior quality of animals. This percentage is also the lowest in all the blocks. The percentage of cultivators of the highest acreage-group in this respect is above the mark, i.e., 63.6 per cent cultivators are found with improved quality of animals in this block. In all the acreage-groups, 14.7 per cent cultivators are noticed keeping the improved animals.

The other enquiry reveals the fact that only 3.9 per cent cultivators received financial assistance to purchase these high quality of animals. The percentage is the lowest among all the otner blocks in this acreage-group. It means a high percentage of cultivators did not receive any assistance in this connection.

In the middle acreage-group 13.6 per cent cultivators

are found without any financial assistance. Considering the highest acreage-group, it is noticed that 54.6 per cent cultivators are such who were given finance to purchase the quality animals. This group of cultivators shows a marked increase in the financial help. What we find out of the total cultivators in all the acreage-groups, shows a very negligible percentage, i.e., 10.6,pf cultivators received received financial help in this block.

The next enquiry in connection with the supply of water through canals and other sources, it is found that in the first acreage-group, 78.6 per cent cultivators are such, who are not getting the needed water from canal. On the other side, the cultivators irrigating their fields from other sources are also in shortage of water, i.e., 74.8 per cent of them are insufficiently utilising water in their fields. This is a very miserable situation of these cultivators of this acreage-group in this block..

The percentage of cultivators in the middle-acreage-group are in worst position in comparison to all the four blocks, as 84.8 per cent cultivators are in short supply of water from canal and 78.8 per cent cultivators needs water from other sources. This acreage-group leads in shortage of irrigation water in comparison to the lowest acreage-group. The percentage of highest acreage-group shows that 63.6 per cent cultivators are not getting the required

quantity of water from canal. They irrigate their fields from other sources, but even these sources are insufficient for their full need.

As a whole the percentage of all the acreage-group shows that 80.0 per cent cultivators are in short supply of water from canal and 72.8 per cent from other sources.

The next enquiry is also related to the former two findings. It is already seen in the analysis of the above enquiries that most of the cultivators are not getting the required quantity of water from either sources. Now it is revealed that 94.1 per cent cultivators under the lowest acreage-group still depend on natural supply of water, i.e., through rain water, while only 5.9 per cent cultivators in this group are having their own sources of irrigation.

The percentage of the other two groups, i.e., the middle and the highest acreage-group, shows that 72.7 per cent and 27.3 per cent, respectively depends on rain water. Whole 27.3 per cent and 72.7 per cent respectively have their own resources in this block. The percentage of all these acreage-group shows that 82.2 per cent cultivators depend on rains and 17.8 per cent have their own sources of irrigation to their fields.

Table No. 6-2: Number and Percentage of the Cultivators having Livestock facilities in Ldha Block.

S. Nos.	Acreage-groups.	Total No. of Cultivators.	Cultivators Having Improved animals.		Ordinary animals.		Cultivators Havinge financial assistance		Havinge no assistance.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1.	2.	3	4	5	6	7	8	9	10	11
1.	0-5	98	11	11.2	87	88.8	8	8.2	90	91.2
2.	5-10	69	13	18.9	56	81,1	12	17.0	57	83.0
3.	10 and above.	13	9	68.2	4	30.8	9	69.2	4	30.8
	Total:	180	33	18.3	147	81.7	29	16.1	151	83.9

Table No. 7.2 Number and Percentage of the Cultivators having Irrigation facilities in Lodha block

S. Nos.	Cultivators utilising insufficiently water from Canal		from other sources.		Cultivators depending mainly on rains.		Cultivators having own sufficient sources.	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	68	4	5	6	7	8	9
1.	67	68.4	73	74.5	94	95.9	4	9.1
2.	53	76.8	51	73.9	61	88.4	8	11.4
3.	11	84.6.	3	23.0	4	30.9	9	69.1
Total	131	72.8	127	70.5	159	88.3	19	11.7

The tables on pages 183 and 184 give an account of the livestock position and financial facilities, and means of irrigation to the cultivators of Lodha block. The enquiry in respect of the livestock position shows that 11.2 per cent cultivators have improved quality of animals in the lowest acreage-group, while 88.8 per cent of them are having ordinary animals.

The percentage of cultivators having improved quality of animals in the middle acreage-group are nearly the same as in the former Dhanipur block, i.e., 18.9, 81.1 per cent of them are having ordinary animals, respectively. The percentage of cultivators of the highest acreage-group is next highest, i.e., 69.2 in comparison to all the four blocks while 30.8 per cent of them also have ordinary animals. Considering the cultivators of all the acreage-groups, it is found that 18.3 per cent are having improved quality of animals, while 81.7 per cent have ordinary ones.

The next enquiry in respect of the provision of financial assistance to the cultivators shows that in the lowest acreage-group only 8.2 per cent cultivators received the help. In the middle acreage-group the percentage increased to 17.0. In both these cases, the cultivators having no financial assistance are 91.2 per cent and 83.0 per cent respectively. The highest acreage-group leads in obtaining the assistance for the purchase of these improved quality of animals in all the four blocks, i.e., 69.2 per cent received help in this respect. The percentage of total

cultivators who received financial assistance is very poor, i.e., 16.1.

The other enquiry in respect of the means of irrigation shows that 68.4 per cent cultivators in the lowest acreage-group are not getting sufficient water from canals. While 74.5 per cent of them are in need of water from other sources. This means that in both these cases a high percentage of cultivators is in shortage of irrigation facilities.

The percentage of middle acreage-group shows that 76.8 per cent cultivators are not getting needed water from canals and 73.9 per cent of them from other sources. In the case of highest acreage-group, 84.6 per cent cultivators are in such a position as the canal water is insufficient. This is a remarkable situation in this block that the cultivators of highest acreage-group are in short of canal water than the small cultivators. The percentage of all the acreage-group shows that 78.8 per cent cultivators of this block have no better irrigation through canals and 70.5 per cent from other sources.

Cultivators depending mainly on rains in this block, in the lowest acreage, are 95.9 per cent, while only 9.1 per cent of them have their own sources of irrigation. This is the highest percentage of cultivators in all the four blocks under study, who have their own resources to such an extent.

In the middle acreage-group 88.4 per cent cultivators depend on natural way of irrigation while 11.4 per cent have their own resources. The percentage of highest acreage-group is 30.7, who depend on rains. In this group 69.1 per cent cultivators are having their own irrigation resources.

Table No. 6-3 : Number and Prcentage of the Cultivators Having Livestock facilities in Jawan Block.

S. Nos.	Acreage-groups.	Total no of Cultivators.	Cultivators Having Improved animals.		Ordinary animals.		Cultivators financial assistance		Received no assistance.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	107	17	15.9	90	84.1	15	14.0	92	86.0
2.	5.10	57	18	31.6	39	68.4	13	22.8	44	77.2
3.	10 and above.	16	9	54.3	7	43.7	9	54.3	7	43.7
	Total:	180	44	24.4	136	75.6	37	20.6	143	79.4

Table No. 7.3 Number and Percentage of the Cultivators having Irrigation facilities in Jawan block.

S.Nos.	Cultivators Utilising insufficiently water from Canal		Cultivators Utilising insufficiently water from other sources.		Cultivators depending mainly on rains.		Cultivators having own sufficient sources.	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9
1.	79	68.2	83	77.6	103	96.4	4	3.6
2.	42	75.4	51	87.9	48	84.2	9	15.8
3.	7	43.8	5	31.3	3	18.7	13	81.3
Total	129	71.7	139	77.2	154	85.5	26	14.5

The tables on pages 184 and 186 give an account of the cultivators of Jawan block having livestock facilities and means of irrigation. The enquiry in respect of the first item shows that in the lowest acreage-group, i.e., 0-5 acres, 15.9 and 84.1 per cent cultivators are found keeping improved and ordinary animals, respectively. The former percentage is the highest in all the blocks under study.

Considering the middle acreage-group, it is noticed that 31.6 per cent and 68.4 per cent cultivators having such animals. In this case also the former percentage is the highest in all the blocks. But the percentage of highest acreage-group, i.e., 54.3 and 45.7 per cent, is the lowest in comparison to the other blocks. But, on the other side, the percentage of cultivators having improved animals in all the acreage-groups is highest in all the blocks under study, i.e., 24.4, while the percentage of those having ordinary ones, is the lowest, i.e., 75.6.

The other enquiry shows that 14.0 per cent cultivators, in the lowest acreage-group, received financial assistance, which is highest in all the other blocks. While in the middle and highest acreage-group, the percentage of cultivators received such assistance is 22.8 and 54.3, respectively. The percentage of highest acreage-group is the lowest. 20.6 per cent cultivators, in all the acreage-groups, who received financial assistance, are highest in all the other blocks.

The percentage of cultivators, in the lowest acreage-group, who are in short supply of irrigation water from canal and other sources is 68.2 and 77.6, respectively. The former percentage is the lowest, while the later is the highest in comparison to all the four blocks. The cultivators of middle and the highest acreage-group show the lowest percentages in all the blocks, i.e., 43.8 and 31.3, respectively. But the total percentage of all the cultivators is the highest among all the four blocks, i.e., 77.2.

The next enquiry of this block shows that in the lowest acreage-group. 96.4 per cent cultivators stilldepend on raine, which is a very high percentage among all the blocks. On the other side of the enquiry, only 3.6 per cent cultivators are found having their own sufficient sources of irrigation.

The percentages of cultivators depending mainly on rain for the irrigation in the middle and highest acreage-groups, are 84.2 and 18.7, respectively, the lowest of all the blocks under study. While having own sufficient sources of irrigation the percentage is the highest, i.e., 15.8 and 81.3, respectively, among all the blocks. The percentage of all the cultivators in this block is 85.5 and 14.5 depending mainly on raine and having own sufficient sources.

Table No. 6-4 : Number and Percentage of the Cultivators having Livestock facilities in Sasni Block.

S. Nos.	Acreage-groups.	Total No. of Cultivators.	Cultivators Having Improved animals.		Cultivators Having Ordinary animals.		Cultivators Having FINANCIAL assistance		Cultivators Having NO assistance.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	115	14	12.2	101	87.8	13	11.3	102	88.7
2.	5.10	57	16	28.8	41	71.2	15	26.3	42	73.7
3.	10 and above.	8	6	75.0	2	25.0	5	62,5	3	37.5
Total:		180	36	20.0	144	80.0	33	18.3	147	81.7

Table No. 7-4 : Number and Percentage of the Cultivators having Irrigation facilities in Sasli block.

S.Nos.	Cultivators Utilising insufficiently water from Canal		from other sources.		Cultivators depending mainly on rains.		Cultivators having own sufficient sources.	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9
1.	97	84.3	86	74.8	108	93.3	7	6.7
2.	39	68.4	41	71.9	51	89.4	6	10.6
3.	2	25.0	3	37.5	3	37.5	5	62.5
Total	138	76.7	130	72.2	162	72.2	18	23.8

The tables on pages 188 and 189 give an account of the percentage responses of cultivators of Saeni block having livestock facilities and means of irrigation which are insufficient to their fields. The enquiry in respect of the livestock shows that in the lowest acreage-group, the cultivators having improved and ordinary animals are 12.2 and 87.8 per cent, respectively. The results of the middle acreage-group, in this respect show a normally the percentages of the second and third order in comparison to the other blocks.

The cultivators of the highest acreage-group have the maximum number of improved animals in this block, i.e., 75.0 in comparison to other blocks. But the percentage of the three acreage-groups is low enough, i.e., 20.0 in this respect.

The next enquiry in respect of the financial assistance provided to the cultivators of this block shows that in the middle acreage-group 20.3 per cent cultivators received financial help which is highest in all the blocks under study. The highest acreage-group also shows the highest percentage in this respect, i.e., 62.5. This shows that in these two acreage-groups the cultivators are comparatively in better position to obtain the help for the purchase of improved animals. But the percentage of all the acreage-group of cultivators goes down to 18.3, which is the next highest in all the four blocks under study.

The enquiry of the other part of the table shows that in the first acreage-group, the cultivators are in short of irrigation water through canal by 84.3 per cent and through other sources by 74.8 per cent, respectively. The shortage of water from canal is highest in all the blocks under this acreage-group.

The percentage of cultivators of middle acreage-group getting insufficient water from these sources is 68.4 and 71.9 per cent, respectively. Only the cultivators of the highest acreage-group in this block are in shortage of water by 25.0 per cent from canals. The percentage of cultivators in shortage of irrigation water, of all the acreage-groups, is 76.7 and 72.2 per cent through canal and other sources.

The cultivators depending mainly on natural sources of irrigation in the first acreage-group are 93.3 per cent in this block, while having their own sources sufficient for irrigation are 6.7 per cent.

The percentage of cultivators of the middle and highest acreage-group, depending mainly on rains are 89.4 and 37.5 per cent, respectively in this block. This is the highest percentage in comparison to other blocks under study. On the other side, 10.6 and 62.5 per cent cultivators of the above acreage-groups have their own sources of irrigation. The total cultivators in this respect are 72.2 and 23.8 per cent, respectively.

Table No.6- 5: Number and percentage of the Cultivators having Livestock facilities in all the four Blocks.

S. Nos.	Acreage-groups.	Total No. of Cultivators.	Cultivators Having Improved animals.		Cultivators Having Ordinary animals.		Cultivators Having financial assistance		Cultivators Having no assistance.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11
1.	0-5	423	49	11.6	374	88.4	40	9.4	293	90.6
2.	5-10	249	59	23.7	190	76.3	49	19.7	200	80.3
3.	10 and above.	48	31	64.6	17	35.4	29	60.6	19	39.4
Total:		720	139	19.3	581	80.7	118	16.4	512	83.6

Table No. 75 Number and Percentage of the Cultivators having Irrigation facilities in all the four block.

S.Nos.	Cultivators Utilising insufficiently water from Canal		from other sources.		Cultivators depending mainly on rains.		Cultivators having own sufficient sources.	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1.	2	3	4	5	6	7	8	9
1.	324	76.6	318	75.2	402	95.0	21	5.0
2.	191	76.7	195	78.3	208	83.5	41	16.5
3.	27	56.2	14	43.8	13	27.1	35	72.9
Total	542	76.3	527	73.2	623	86.5	97	13.5

The tables on pages 192 and 193 give an account of the cultivators of all the four blocks under study. It is noticed that on an average the results drawn show that minimum requirements of the cultivators are fulfilled under these enquiries.

11.6 per cent cultivators in the first acreage-group have improved animals, while those having ordinary livestocks are 88.4 per cent. The cultivators of middle acreage-group, have a bigger percentage, i.e., 23.7 in respect of improved variety of animals. Percentage of ordinarya animals with them is 76.3. Considering the highest acreage-group, we find that 64.6 per cent cultivators have improved variety of animals, which is remarkably a good progress. But the average percentage goes down to 19.3,having improved animals, while having ordinary ones are 80.7 per cent.

The other enquiry shows that the cultivators of lowest acreage-group are 9.4 per cent who received any financial assistance. This means the rest or the cultivators having improved animals purchased on their own. Only the highest acreage-group of cultivators received maximum financial help, i.e., 60.6. 16.4 per cent cultivators are noticed in all the three acreage-groups, who did not receive any financial help.

The next enquiry in respect of the lack of irrigation water through canal or other sources to nearly all the cultivators shows that in the lowest acreage-group, 76.6 and 75.2 per cent of them need more water. It means a high percentage

of cultivators are such for whom this problem is of much significance as this is an important element to obtain higher yield. The percentage of the middle acreage-group is nearly the same.

Besides, the cultivators of highest acreage-group are in somewhat better position, as 56.2 per cent of them need more canal water, while from other sources 43.8 per cent cultivators are in shortage of water. The percentage of cultivators in all the acreage-groups is 75.3 and 73.2, which is normally a high percentage of cultivators in short supply of water from these sources.

On the other side, 95.0 per cent cultivators are found in the lowest acreage-group, who still depend on rain water, while only 5.0 per cent of them have sufficient sources of irrigation. The position of the middle acreage-group is nearly the same. Only a marginal increase in the percentage of cultivators having sufficient sources of irrigation is found, i.e., 16.5 per cent.

The case of the cultivators in the highest acreage-group, is in fact better than the above two categories of cultivators, as only 27.1 per cent cultivators depend on rain water, while 72.9 per cent have sufficient sources of irrigation. The cultivators in all the groups depend mainly on rains are 86.5 per cent and having sufficient sources of irrigation are 13.5 per cent.

Table No. 8-1.1 Number and Percentage of the Cultivators able to utilise inputs and draw benefits through Package Programme in Dhanpur block.

S.Nos.	Acreage-groups.	Total No. Cultivators.	Cultivators who are able to increase yield.		Cultivators who are able to increase yield.		Cultivators who are not able to raise 3 or 4 crops.		Cultivators who are able to increase.		Cultivators who obtain inputs On higher rates.		On fixed rates.		Cultivators who are Satisfied of the supplied.		Not satisfied of the supplies.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0-5	103	91	88.3	12	11-7	87	84.5	16	15-5	82	79.6	21	20.4	6	5.8	97	94.2
2.	5-10	66	61	92.4	5	7.6	53	80.3	13	19.7	49	74.2	17	25.8	20	30.3	46	69.7
3.	10 and above.	11	-	-	11	100.0	1	9.1	10	90.0	2	18.2	9	81.8	4	36.4	7	63.6
	Total	180	152	84.4	28	15.6	141	70.3	39	21.7	133	73.9	47	26.1	30	16.7	150	83.3

The table on page 196 shows the percentage responses of the cultivators of Dhanipur block in respect of the utility of inputs applied and the benefits derived after the implementation of the intensive agricultural district programme.

It is noticed that in the lowest acreage-group only 11.7 per cent cultivators are such who increased the yields of their crops. While 88.3 per cent of them could not increase it. A further fall of percentage in the middle acreage-group is noticed in this block, i.e., 7.6. The cultivators of this acreage-group seems more backgward, as they are in lower percentage.

The cultivators in the highest acreage-group seems more advanced and well aware of the scientific methods to increase the yield of their crops, as 100.0 per cent of them increased the yield of crops using intensive methods. But in all the acreage-groups, only 15.6 per cent cultivators are found who increased their yield. Two farmer groups of cultivators are lacking in the scientific approach of cultivation.

The next enquiry in respect of the cultivators raising more than two crops in a year shows that 84.5 per cent of them were not in a position to raise any more crops in the lowest acreage-group. Not much difference is found in the case of middle acreage-group of cultivators. The highest

acreage-group of cultivators are in high percentage, i.e., 90.9, who raise more than two crops in this block. On an average 21.7 cultivators in this block are found raising more than two crops.

The other enquiry in respect of the cultivators getting inputs on higher rates shows that 79.6 per cent cultivators in the lowest acreage-group, 74.2 per cent in the middle-acreage group and 18.2 per cent in the highest acreage-group obtained the inputs on higher rates. Only the cultivators of last acreage-group are found in a position who have the minimum complaint about the sale of inputs on higher rates. The rest of the two categories are not in such a position as to pay the usual rates of inputs. The percentage of all the three acreage-groups goes down only because of the lowerpercentages of the above two categories.

The findings of the enquiry in respect of the satisfaction of the cultivators of the supplies being made through the field staff show that a maximum number of cultivators are such who remained unsatisfied of the provisions of the requirements of cultivators for their cultivation. The first acreage-group of cultivators are 5.8 per cent, while the rest of the categories are 30.3 and 36.4 per cent, respectively. As a whole 16.7 per cent cultivators are in short of their requirements.

Table No. 8-2:

Number and Percentage of the Cultivators able to utilise inputs and draw benefits through Package Programme of Indha block.

Sl.Nos.	Acreage-groups.	Total No.Cultivators.	Cultivators who are Not able to increase yield.		able to increase yield.		Cultivators who are Not able to raise 3 or 4 crops.		able to increase		Cultivators who obtain inputs on higher rates.		on fixed rates		Cultivators who are satisfied of the supplies.		Not satisfied of the supplies.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0-5	98	93	94.9	5	5.1	88	89.8	10	10.2	89	90.8	9	9.2	11	11.2	89	88.8
2.	5-10	69	66	95.7	3	4.3	62	89.9	7	10.1	57	82.6	9	17.4	9	13.0	60	87.0
3.	10 and above	13	1	7.7	12	92.3	2	15.4	11	84.6	4	30.8	9	69.2	8	61.5	5	38.5
	Total	180	160	88.9	20	11.1	152	84.4	28	15.6	150	85.0	27	15.0	28	15.5	152	84.5

The responses of the cultivators of Lodha block given on page 199 shows that 94.9 per cent and 95.7 per cent of them lowest and middle acreage-group, respectively, are not in a position to increase the yield of their crops. This is more than what is noticed in the former Dhanipur block. Only 5.1 and 4.3 per cent cultivators of these two categories increased the yield of their crops. In this block the cultivators of the lowest acreage-group are to some extent higher than the next acreage-group of cultivators.

The case of highest acreage-group of cultivators is far better than the above two categories, ,i.e., 92.3 per cent of them increased the yield of their crops but it is also lower than the former block. Therefore, as a whole 11.1 per cent cultivators are among those increasing their yields.

The next enquiry in connection with the cultivators of the lowest acreage-group shows that 89.8 per cent of them could not raise more than two crops, and the same is the position of the middle acreage-group, ie., 89.9 per cent. On the other hand, the cultivators of the highest acreage-group are 84.6 per cent who raised more than two crops. Only 15.4 per cent cultivators of this category could not raise more than the usual crops due to the lack of the inputs.

The enquiry in respect of the availability of inputs on the prescribed rates, it is found that 90.8 per cent

cultivators in the lowest acreage-group are such who obtained these inputs on higher rates. The case of middle acreage-group of cultivators is nearly the same, as 82.6 per cent of them obtained the inputs paying more than the usual rates.

Even, 69.2 per cent cultivators in the highest acreage-group are found paying highly for obtaining the required inputs. There are 30.8 per cent cultivators in this acreage-group receiving the needed inputs on usual rates. It means that when the big cultivators too are paying highly, no question arises the availability of inputs on normal rates to the cultivators of former two acreage-groups.

The other enquiry in respect of the satisfaction of the cultivators for the supplies being made by the field staff. The cultivators in the lowest acreage-group seems very much unattended in this respect as 11.2 per cent of them do not speak in favour of the supplies of their farm requirements. Nearly the same, i.e., 13.0 per cent, is the position of the middle acreage-group of cultivators. What is noticed in the case of highest acreage-group of cultivators, that 61.5 per cent, the next highest in all the blocks under study, are satisfied of the farm supplies.

Table No.8-3: Number and Percentage of the Cultivators able to utilise inputs and draw benefits through Package Programme. of Jawan block.

S.No.	Acreage-groups.	Total No.Cultivators.	Cultivators who are Not able to increase yield.		able to increase yield.		Cultivators who are Not able to raise 3 or 4 crops.		able to increase		Cultivators who obtain inputs on higher rates		on fixed rates		Cultivators who are satisfied of the supplies.		not satisfied of the supplies.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0-5	107	101	94.4	6	5-6	94	87.9	13	12.1	93	86.9	14	13.1	12	11.2	95	88.8
2.	5-10	57	53	93.0	4	7.0	46	80.7	11	19.3	49	86.0	8	14.0	9	15.8	48.	84.2
3.	10 and above.	16	-	-	16	100.0	1	6.2	15	93.8	7	43.8	9	56.2	8	50.0	8	50.0
	Total	180	154	85.6	26	14.4	141	78.3	39	21.7	149	82.8	29	17.2	151	83.9	29	16.1

The study of the cultivators of Jawan block in respect of the utilisation of inputs and their effect on yield and the satisfaction of the cultivators for the supplies of their farm requirements, as given on page 202 shows that 94.4 per cent cultivators in the lowest acreage-group and 93.0 per cent in the middle acreage-group are found not able to increase the yields of their crops.

The cultivators in the highest acreage-group are found very superior in understanding and application of inputs and the results of success to increase their yield are 100.0 per cent. This is also similar to that of Dhanipur block.

The other enquiry in respect of the cultivators who are found able to raise more than two usual crops in a year shows that in the lowest acreage-group, the percentage is 12.1, while the cultivators of middle acreage-group are to some extent higher in percentage but not a very high.

The results of the highest acreage-group are highest in comparison to the other blocks. As 93.8 per cent cultivators in this block raised more than two crops. It means they are more active in the performance to raise the number of crops in a year.

The other enquiry in respect of the availability of inputs on the rates other than normal, shows that the percentages of the cultivators of lowest acreage-group and the middle acreage-group are marginally varies, i.e., 86.9 and 86.0 per cent, respectively, who obtained the needed inputs on higher rates. It means that both these categories of cultivators are not resourceful and full attention is also not being paid to them.

The cultivators of the highest acreage-group do not seem also approachable as 43.8 per cent of them obtained these inputs on higher rates. 56.2 per cent of these cultivators obtained on normal rates.

The enquiry in respect of the cultivators satisfied of the farm supplies being made through the field staff shows that the cultivators of lowest acreage-group and middle acreage-group are 11.2 and 15.8 per cent, respectively, who are not in a position to get their requirements.

The study of the cultivators of the highest acreage-group shows that 50.0 per cent of these cultivators are appreciably satisfied of their requirements. Although on comparison with other blocks under study, we find that this is not a good percentage.

Table No.8-3: Number and Percentage of the Cultivators able to utilise inputs and drew benefits through Package Programme. of Saoni block.

S.Nos.	Acreage-groups.	Total No. Cultivators.	Cultivators who are				Cultivators who are				Cultivators who obtain inputs				Cultivators who are			
			Not able to increase yield.		able to increase yield.		Not able to raise 3 or 4 crops.		able to increase		on higher rates.		on fixed rates.		satisfied of the supplied		not satisfied of the supplies.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0-5	115	103	89.6	12	10.4	96	83.5	199	16.5	98	85.2	17	14.8	21	18.3	94	81.7
2.	5-10	57	49	86.0	8	14.0	43	75.4	14	24.6	41	71.9	16	18.1	15	26.3	42	73.7
3.	10 and above.	8	-	-	8	100.0	1	12.5	7	87.5	3	37.5	5	62.5	5	62.5	3	37.5
	Total	180	152	88.9	28	11.1	140	77.8	40	22.2	142	78.9	38	21.1	41	22.8	139	17.2

The table on page 205 gives an account of the cultivators of Sasni block, who are able to utilise the inputs and draw benefits out of the latest farming techniques being suggested in the package programme. The enquiry shows that the cultivators of the lowest and the middle acreage-groups are 89.6 and 86.0 per cent, who are not able to increase the yield of their crops due to one or the other reason brought into light on the table of provisions of inputs etc.

Only the cultivators of the highest acreage-group of this block are such who increased the yield of their crops, i.e., 100.0 per cent. It means they are more advance and well acquainted with the latest agricultural techniques.

In the next enquiry in respect of the cultivators able to raise more than the usual two crops, it is noticed that 16.5 and 24.6 per cent cultivators of the lowest acreage-group and the middle acreage-group, respectively, are able to raise more than the usual crops. It means the cultivators of these two categories lack specially farm requirements and also understanding.

The case of the cultivators of the highest acreage-group is altogether different as 87.5 per cent of them raise more than two crops. This shows that the cultivators of this group have better resources than the former ones.

The next enquiry in respect of the cultivators who were in a position to apply inputs to their fields after getting them on market rates, ,shows that out of total cultivators of lowest acreage-group only 14.8 per cent of them were found in such a situation. The percentage of the next acreage-group, i.e., the middle acreage-group, increase marginally, i.e., 18.1 per cent of the cultivators received inputs on market rates. The percentagesof cultivators getting inputs on fixed rates, of these two acreage-groups are not much different to each other.

The study of the cultivators of the highest acreage-group shows that 62.5 per cent cultivators in Sasni block are able to obtain inputs on fixed rates. This is a good percentage but next lowest in comparison to Jawan block.

The other enquiry in connection with the provision of farm inputs through the package staff shows that very few cultivators in the lowest and middle acreage-groups are found satisfied of the supplies, i.e., 18.3 per cent and 26.3 per cent, respectively. Considering the cultivators of highest acreage-group, it is revealed that 62.5 per cent cultivators under this group are such who are satisfied of the farm requirements through the staff. This has brought into light the fact that the big cultivators are able to obtain their requirements easily, rather than the cultivators of former two categories.

Table No.8-5 : Number and Percentage of the Cultivators able to utilise inputs and draw benefits through Package Programme in all the four blocks.

S.Nos.	Acreage-groups.	Total No. Cultivators.	Cultivators who are Not able to increase yield.		able to increase yield.		Cultivators who are Not able to raise more than two crops.		able to increase more than two crops.		Cultivators who obtain inputs On higher rates.		on fixed rates		Cultivators who are satisfied of the supplies.		not satisfied of the supplies.	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	0-5	423	388	91.7	35	8.3	365	86.3	58	13.7	362	85.6	61	14.4	50	11.8	373	88.2
2.	5-10	249	229	92.0	20	8.0	204	81.1	45	18.9	196	78.7	50	21.3	53	21.3	196	78.7
3.	10 and above.	48	1	2.1	47	97.9	5	10.4	43	89.6	18	37.5	30	62.5	25	52.1	23	47.9
	Total :	720	618	-	102	14.2	574	79.7	146	20.3	576	80.4	141	19.6	128	17.8	592	82.2

The examination of the table of all the four blocks under the study given on page 208 reveals certain facts in respect of the cultivators ability to utilise the inputs in their fields and the satisfaction of the provision of the requirements from package authorities. It is noticed that in the lowest acreage-group and the middle acreage-group, 91.7 and 92.0 per cent cultivators are found inable to increase the yields of their crops because of the shortage of most of the farm inputs and also due to the lack of understanding about the latest farming techniques in respect of soil, pest and disease etc.

Instead, in case of the highest acreage-group of cultivators, it is found that 97.9 per cent of them are able to increase the yield of their crops. As this is the result of big cultivators who are prosperous on the one hand and resourceful and well acquainted of the scientific approach to the farming, they are in a position to go ahead with the tools and technique made available to them. Their prosperousness plays an important role to get all kinds of facilities from package staff and co-operatives etc.

The cultivators of all the four blocks under study who are able to raise morethan two crops in a year in the lowest acreage-group, are 13.7 per cent. Being the cultivators of the lowest acreage-group, this percentage shows the encouraging results, if compared to other enquiries under

this group. In the case of the cultivators of the middle acreage-group, it is noticed that the increase in the percentage of cultivators able to raise more than the usual two crops is minor, i.e., only 5.2, which reveals that this group of cultivators are nearly in the same position in raising the crops. Therefore, the analysis of these two groups of cultivators points out the lack of knowledge and interest and also to a greater extent the non-availability of facilities to the cultivators. Their lack of education also is the cause of being neglected at the time of scientific demonstrations in the same village or in any nearby village.

On the other hand, the study of the highest acreage-group of cultivators makes it clear that they are more interested and well-acquainted of the improved techniques and have an understanding of the benefits to cultivate intensively as and when the scientific demonstrations were made on the fields of any village. Their percentage is on the top, i.e., 89.6 considering the cultivators of all the four blocks under study. As a whole we find the cultivators of all the three acreage-groups, who raised more than two crops, are 20.3 per cent. The result is not bad.

The results of the next enquiry in respect of the cultivators of the lowest acreage-group of all the four blocks under study, who were able to obtain inputs on fixed rates show that only 14.4 per cent of them are found in such a position, while the cultivators obtaining inputs after

paying abnormal prices are 85.6 per cent. This is a very surprising situation in the package district which has been selected on the basis of the maximum facilities provided by the Programme concern people. It is already known that the condition of the cultivators of the lowest acreage-group is very miserable, and if they will have to pay exhorbitant rates for getting the inputs, how far will they be able to remain unindebted.

The case of the cultivators of the middle acreage-group is to some extent similar, i.e., 21.3 per cent of them were able to obtain inputs on fixed rates. There is a difference of 6.7 per cent only. The plight of the cultivators under the two acreage-groups is nearly the same.

The study of the cultivators of highest acreage-group reveals the fact that they are also not being provided the required inputs on fixed rates. Only 62.5 per cent of them were able to obtain it. It is noted that the availability of inputs are generally on the rates higher than the market rates.

Results of the enquiry in respect of the provision of farm requirements of the cultivators of all the four blocks under study reveals the fact that the cultivators in this lowest acreage-group are in short of supply of their farm inputs by 88.2 per cent. This high percentage of cultivators insufficiently provided the farm inputs, shows that the progrm concern workers are least interested in the development of

agricultural economy as well as the living of this class of farmers. Their attitude towards these lowest acreage-group of cultivators is negligient.

The other higher class, i.e., the middle acreage-group are somewhat in better position in this respect. But not to the extent the next higher class of cultivators are in such optimum benefits. The The enquiry shows that 21.3 per cent cultivators are satisfied of the farm supplies.

The cultivators of the highest acreage-group are just a bit higher by fifty per cent who are satisfied of the farm supplies, i.e., 52.1 per cent. It is found that even this category of cultivators, who are considered as to a greater extent educated as well as well-known to the farm techniques and more interested in the scientific cultivation, are not being attended to and provided their requirements fully.

C H A P T E R - VII

C O N C L U S I O N

IMPACT OF THE PACKAGE PROGRAMME ON THE CULTIVATORS OF ALIGARH DISTRICT:

The present studynin connection with the evaluation of the Intensive Agricultural District Programme, i.e., Package Programme, has brought into light certain significant results after a minute observation of the Programme which was implemented in Aligarh district of Uttar Pradesh in the year 1961-62. Package Programme has nearly completed a decade, and this period is quite sufficient for the evaluation of the Programme and assessing the trends it has engendered.

If the country is to succeed in overcoming the problem of agricultural production, there must be the increase in agricultural productivity to form a base for all other development. The developed countries have amply demonstrated that there is no alternative to agricultural

productivity as a base for the economic development of any country.

Economically the country cannot afford to import foodgrains indefinitely. The limited resources can be utilised to import other requirements not at present available within the country.

The countries which are now agriculturally advance have already come across with this package approach, i.e., application of all the inputs simultaneously and in a scientific manner (package of improved practices vis-a-vis package of inputs) for increasing their productivity as well as production. Thus, the concept is not new, although it is named as 'Package Programme' or IADP. In fact, the essentials of it have been used successfully in every country in the world which has a high rate of agricultural productivity. And since the process has no record of failure anywhere, it can succeed in India as well. But the degree of success will depend on how clearly the process is understood by the people who are making it work. Its success will depend on the vision and imagination of the Programme's personnel to find resources and to organize and co-ordinate various elements of the Programme effectively.

The extension staff associated with the Package Programme still needs intensive training at regular

intervals, particularly in the field of developing and promoting functional leadership at the village level and channelising it for agricultural development programmes.

The staff sanctioned for IADP at the district and block levels, which is incharge of schemes like Agricultural Implements Units, Quality Seed Programme, Soil-testing Laboratory, Agricultural Information Unit etc., is not wholly manned by qualified and experienced persons. Moreover, in all the departments, the transfer of staff continue to be high which is detrimental to the Programme. The situation did not improve in spite of repeated recommendations made by the Central Conference of Key Personnel[1] that frequent transfers of staff employed in the district should be reduced to the minimum. Each posting should be upto five years to ensure administrative stability and continuity in the processes of planning and implementation. But while ensuring continuity, it is equally necessary that the staff should be given all promotion which are due to them by virtue of the work done by them.

The other serious problem observed in the district was with regard to job assignment of block level staff, particularly, village level workers. The village level workers are not being utilised wholly for agriculturally production programmes, instead, they are continuously being

1. Report of the IADP Conference of the First Central Training Course for Key Personnel of the Programme, Govt. of India, Ministry of Food and Agriculture, New Delhi.

used for non-agricultural activities, i.e., family planning, small pox vaccination and malaria work etc., also. This is often due to the absence of an official at the village level to take care of non-agricultural functions, which have become quite numerous.

The Programme's future clearly rests on the ability of its administrative structure to function effectively in providing the cultivators with the essential ingredients to produce food and in educating and motivating the cultivators to give up their traditional practices and accept modern improved practices based on science and technological development.

Despite the magnitude of this problem, it is disturbing to note that there is little realisation on the part of administratives to be aware of the scope and intensity of the impending food shortages.

The Grow More Food Enquiry Committee[1] cited in its final report several reasons for the failure of its campaign. One was the ineffective administration. The people involved in the campaign were unable to convince the cultivators of the urgent need for growing more food, and hence were unable to pursuade them to alter their traditional methods of cultivation.

The administrative process for the Package Programme

---

1. Report of the Grow More Food Enquiry Committee, Govt. of India, Ministry of Food and Agriculture, New Delhi, 1952, p.27.

consists of a very important principle, i.e., "principle of assistance". Since food is produced by the cultivator alone, it is he who must make decisions regarding the use of his technical knowledge, labour, supplies, land, capital, water and other resources. The Package Programme is based on the cultivator and his needs for increasing food production and farm income. Thus it is the function of the administrative process and of the administrators to assist the cultivator, in the following manner:-

The cultivator should be assisted in -

i) developing and evaluating alternative uses of his resources in terms of the Programme's objectives;

ii) choosing and applying the farm production plan most suited to his own conditions;

iii) procuring sufficient technical knowledge, production supplies and economic rewards;

iv) making available to the cultivator whatever technical information, staff help, or physical facilities needed;

v) making available when and where these facilities are needed.

In India 82 of the 326 districts produce over 90% of the foodgrains that move into markets outside the district in which they are grown.[1] These districts have

1. Op.Cit.,Govt.of India,Ministry of Food and Agriculture, New Delhi,p.13.

more responsive soil and a more adequate supply of water. Their cultivators appear more responsive to the use of technology. So it is in these districts that the use of adequate credit, fertilizers, quality seeds, and intensive educational efforts are expected to produce the greatest increase in marketable foodgrains.

Most of these package districts are among this group. Obviously, therefore, they have the potential to produce rapid increases in the output of foodgrains. But their ability to do so depends on the efficiency of the programme's administration. Only the principle of assistance cannot succeed the Programme.

Unless the staff feel that the success of the Programme is vital to demonstrate the soundness of production effort and get involved in it, it would not be much different from many schemes which were operated through government at many times.

There is a common complaint found against the village level workers that they are available only in the village where they stay and in certain cases they do not even stay where they should. Instead, they remain outside their jurisdiction.

It is the duty of the village level workers to organize a group of cultivators for a visit to the demonstration plot to make them understand the progress achieved

through improved practices, i.e., proper application of the inputs. It was expected that during a period of seven years most of the cultivators would have visited the demonstration plots. But on the enquiry made through the sample survey, it is revealed that a good number of cultivators are still found who have not visited any demonstration fields. It is quite an easy task for a village level worker to motivate the farmers and to pursue them for a visit to any demonstration field.

Relating to the enquiry of fertilizers application in their fields, it is revealed that the cultivators holdings small plots of lands are orthodox enough to explain that this 'angrezi khad' is harmful to their fields in the long run. They consider that after using these fertilizers in the fields, the land's original fertility is wiped out, and the fertility can only be maintained if the regularity in the application of proper doses of fertilizers is there. This is what happened when they somehow applied these fertilizers, the produce was certainly better. But in the next season the fertilizers were not available to them. Consequently, the produce was not even to the extent of the previous yield which was without the application of fertilizers.

It is noticed that nearly all the cultivators were sowing local seeds for their own use, whereas for the purpose of disposal in the market they were interested to

obtain and apply high yielding variety seeds, as they agree in respect of their high-yielding potentiality. But as these seeds require proper use of fertilisers and also plenty of water, the use of these seeds is found very limited.

The big cultivators are more interested in the improved practices than the small ones, as they were in a position to adopt these improved practices even if they have to pay more and year after year. These cultivators are specially the main suppliers in the market and owned big stocks of grain. The reverse is the position of the cultivators of the lowest acreage-group and that is due to the pausity of funds made available to them.

When we go through the various reports of the co-operative department which are closely connected with the Package Programme we find a good progress has been shown in this direction. There is an yearly increase of the share capital as well as the membership of the co-operative societies. But, the response of the cultivators in the Package district in connection with their membership is remarkably low, whereas it should have been the maximim being the package district, which is going to be the model district in the State.

It is noticed that every year people become members of these societies and leave them within a year or so.

Therefore, on the roll of the societies the number of members every year increases, whereas there is no mention of the members leaving the societies. There is justification for the members leaving the membership of the societies, as societies are unable to provide against the requirements of the members in full and in time also. What is given as a loan to them, is required to be repaid at the time of harvesting irrespective of the fact that the crop is good or bad and the cultivator is in a position to pay back the loan or not. Few cultivators responded that on account of default in repayment of the loan some farmers were got arrested by the co-operative societies. In consequence of this terror, most of the farmers declined to keep any association with the co-operatives or to join afresh the same.

The functioning of the Co-operative Credit Societies in respect of the distribution of loans to the cultivators has been throughout very defective. Particularly, the cultivators do not get the loans at the time of need. It is noticed that the cultivators of the lowest acreage-group are mostly neglected. Whatever the distribution of loan is noticed that is in case of the big and resourceful cultivators. It is often found that even the big cultivators face difficulties in obtaining the required sum of loan. Mr. Babulal, the Pradhan of Baraun village of Lodha

block stated that he could not obtain the required sum of loan even after so many efforts and visits to the authorities concerned. This is an acute problem as all the members of the co-operative society expect to be supplied their just demands at the earliest possible time. But what actually happens that the sowing time is passed and their requirements are not fulfilled. Consequently, they have to arrange their requirements from other sources.

Nearly all the cultivators are against these malpractices of the co-operative societies. These societies are not performing their functions well and most of the staff members do not feel the importance and urgency of the Programme and they are reluctant to arrange the supplies of inputs before time and according to the requirements of the cultivators.

The result of these inefficiencies of the co-operative societies is that the cultivators become the victim of local moneylenders and other speculators, who extend their hands in giving them loans on higher rates of interest to apply the needed inputs at the time. The position of small cultivators is worst as they cannot come out of this vicious circle and they are permanently indebted. Only the big cultivators can avoid this permanent indebtedness. This continued indebtedness of the small cultivators brings misery for them as their over all position after the

payment of loans become too miserable. What is usually happening with these cultivators that they are disposing off their holdings gradually to the speculators who are already in search of such cultivators, and these cultivators are being converted into landless labourers.[1]

The provision of inputs by the co-operative societies to the cultivators is not supportive and encouraging and they are unable to provide the total requirements of the cultivators.

Moreover, whatever the cultivators receive afterwards, they misuse it in non-productive manner which is due to the non-availability of the inputs in time from the co-operative societies. Whatever they get afterwards are of no use, as the small cultivators are bound to sell it due to their indebtedness and the others who are in better position sell it on a profit motive charging higher rates for the time. There are some stockholders and black-marketeers in the villages, who purchase these inputs from the cultivators to resell them at the time of need when they can easily charge higher prices. This trend prevails nearly in all the villages the investigator came into contact. As farmers cannot withhold the money after the sale of kind component of loan they become extravagant.

The other reason is that most of the cultivators

of the lowest acreage-group remain in distress throughout the year, even after the harvesting period they do not have enough money to pay loans in full after disbursing other items of expenditure.

The study of the other problem in respect of the availability of water shows that there are very few channels all over the district to irrigate the land and the approaches of these small channels are not regular and well-connected. The response of the cultivators who have their own tubewells and other sources of irrigation come under a minor percentage.

On the other side, the government operated tubewells function in a most unsatisfactory manner, they supply water on preference basis, whoever pays the additional amount than what is the official rate, is able to get plenty of water first and on time also. The same overcharging continues with the supply of water through canals. As the fertilizers and improved quality seeds are responsive to high doses of water than in the normal course of cultivation, the timely supply of water and in the required quantity is the pre-condition of the expected high yield, otherwise a failure or we can say a reverse situation is inevitable.

The shortage in the provision of water to a greater extent prevents the cultivators not to do efforts to obtain

the fertilizers, even if they are available to them from some source and on higher rates too.

Water supply to the fields in good quantity is the crucial problem of this district. There are in pending a lot of applications for the sanction of loans for the purpose of tube-wells. Only resourceful cultivators are being sanctioned in preference and they are too in a position to get the amount sanctioned after hard efforts. There is no attention on the applications of the cultivators of the lowest acreage-group.

What the improved practices have brought into light to the general understanding of the cultivators that a high yield is possible with low cost and efforts. But, instead, as the cultivators are being supplied inputs on higher rates than on the market rates, the respondents, who are on the increase in cost, are greater. Then, how can the maximum benefit through intensive cultivation be achieved when such conditions prevail in the agriculture field. Till the provision of inputs through these concerns are made on abnormal rates and only to resourceful cultivators, there is no scope of these efforts to bear fruits.

For the well-being of the cultivators and to enhance their income, several development schemes were also planned to implement side by side with intensive agricultural development programme, i.e., poultry farming,

animal husbandry and fisheries etc., but no enthusiasm is found among the cultivators to go ahead with these schemes drawn by the programme concerns. Instead, in the case of poultry farming, the people living in the city are benefitting rather than the cultivators. In the case of animal husbandry programme, it is found that only big cultivators have obtained to some extent the improved quality of bulls and buffaloes. The cultivators of lowest acreage-group could not reap so much benefit out of this scheme.

The progress so far achieved is through the resourceful and big cultivators. The cultivators of the lowest acreage-group are not being dealt in the same way as the cultivators of the highest acreage-group.

The approaches and visits of the staff are on the road-side villages. No one tries to peep into the interior. More often, they like to see only the demonstration plots, and on the other hand, it is only when they are welcome by the big cultivators.

All persons connected with the Programme should have been more interested considering the development of the agricultural economy as a whole for a further exapnsion in the Programme. With the efforts at this rate it will be of no use if any more districts are included under this Programme.

Suggestions:

The Intensive Agricultural District Programme has two broad aspects. It includes proposals on the one hamd, which concern the "off-the-farm" side of agriculture, and on the other, proposals which are carried out "on-the-farm" where the food is actually grown, and that is why the term 'package' is used.

The off-the-farm aspects of the Programme are easy enough to describe: They include credit, transport, agricultural marketing, provision of farm supplies such as fertilizers, improved seeds, insecticides, farm implements. But they are more difficult to implement. The most important requirement is a clear cut and adequate government policy, as well as men with the courage to translate this policy into action. This policy assures the cultivators of favourable economic conditions and provide, both in the public and private sectors, the necessary "off-the-farm" means of food production.

These requirements grow more rapidly than the projected growth in the food supply, for, inall the countries in which food output has grown rapidly, the experience is that the demand for these off-the-farm resources grow more quickly than the output of food itself.

The growth in agriculture is dependent on the expansion in the construction activities for capital creation such as irrigation channels, earth work dams, wells and

ponds, roads, and buildings required for agricultural purposes.[1]

A considerable expansion in the agricultural production can be stimulated due to the rising expectations[2] of the cultivators, i.e., increase in the demand for non-food goods by way of increase in income. But to do this, an initial investment is necessary, i.e., discovering the natural resources, providing basic transportation and communication, The consumption pattern in India reflects the need for more consumer goods which are common and necessary for good living, i.e., housing, clothing, and other amenities and these can be made available with labour-intensive devices and with a very limited capital. Thus a possibility is there of a greater output in the small modern industry. Consequently, with this initial investment, the demand for non-good goods will increase and also the productive capacity.

In this regard J.P. Lewis has rightly remarked that "a serviceable rural development programme in India must deal with the several aspects of the rural economy in an integrated fashion. An isolated agricultural development effort unrelated to, and unsupported by, other kinds of rural policies would be doomed to failure almost surely".[3]

---

1. Malenbaum,W., "Prospects for Indian Development", 1962, Chap.XIV,pp.291-312.
2. Smithis,A., "Rising Expectations and Economic Development", The Economic Journal, VolLXXI,1961,pp.255-72.
3. Lewis,J.P., "Quiet Crisis in India",Chap.VI,pp.137-66.

In respect of price policies and production efforts so far made it is viewed that as a result of the lack of understanding of the price mechanism and the consequent adoption of wrong price policies, the production of agricultural commodities, especially of foodgrains has been unbalanced since the beginning of the planning era and it retarded the incentives to grow more with advanced techniques and a proper combination of the vailable scarce resources.

Besides, variations in the crop prices of foodgrains and non-foodgrains have, more or less, affected the relative change in the acreages of different crops and also the marketed farm surplus[1]. When the demand of the people for foodgrains is continuously increasing than the home supply, stability of the prices is very difficult howsoever the efforts are made for the buffer stocks, rationing and of the import from surplus countries. To stabilise prices in the short run, the supply of foodgrains is required to be more than the demand, which is feasible by imports and rationing but these measures cannot help in the long run.

On the other hand, as the control tend to discourage supply and production activities in the short-run, the policy of price control should be such as to induce the

---

1. Khusro,A.M., "The Pricing of Foodgrains in India", The Quarterly Journal of Economics, Vol.LXXXI, May, 1967, pp.271.85.

cultivators to market surpluses in the short-run and produce more in the long run.

Thus, on the off-the-farm side, the Programme must proceed on several fronts. It must strengthen its organization and system of administration without losing its flexibility and it must develop its institutions so that they can continue to educate and inspire its staff.

These, of course, are pre-conditions and pre-requisites, all essential to the success of the Package Programme. But they alone are not enough. There is the "on-the-farm" side that is of tremendous importance. It is the cultivator who will make this Programme succeed or fail, and it is to him and his needs and desires that should have been directed a major part of efforts of the planners.

It should always be remembered that the dealing is with the independent persons. They are free to choose, and certainly it is better for them to remain so. But as long as they are, it must be realised that they are just as capable of rejecting what is offered as they are of accepting it.

Therefore, it should be made clear to these men of the Programme that the efforts are being made for the personal as well as the national aspects of the food crisis. It must be demonstrated to these cultivators that the Programme is for their welfare and the welfare of their families and the staff is not merely interested in the

economic importance of the food they are expected to produce. Thus approach must be made to them as equals rather than as superiors. There should have been an offer of assistance to them adapted to their own needs, and an assurance that the additional productive resources they require will be available easily and under fair and favourable conditions.

After all this, there still remains a very important work to do, i.e., helping the cultivator to develop an improved farm production plan. If it is prepared by the village level worker himself, the Package Programme certainly fails. If the cultivator is to implement an improved production plan, it is essential that he participates in shaping it. He must understand it and have faith in its value. Otherwise, he will see the plan as just another thing foisted upon him, he will use it only half-heartedly, or not at all; and if this happens, all the changes for success will be lost. This is, what is being done and noticed that the cultivators are not aware of the use and preparation of the farm plan.

There is another work related to this to be done. If the cultivator needs credit to finance the farm plan he has, it is not enough to have a workable institution available to provide the credit. The village level worker should actually help him get the credit he needs. And the same will be true for other supplies. He should help him procure

fertilizers, seeds, insecticides, and whatever else is essential to him.

Moreover, he should also not leave him at this stage to carry on as best as he can. He should be ready to counsel and to demonstrate the improved practices. He should continue supplying this help throughout the production period, and also when the cultivator markets his surplus, and when he pays off his loan. Then he should help him appraise his efforts and challenge, if he has been successful thus far, to do better the next year.

The importance of agricultural credit in any production programme cannot be minimised. Without additional investment additional production cannot be anticipated. If full supplies are arranged, it is necessary that the cultivator should be provided with the need agricultural credit for purchasing the supplies. It is important that the credit that is provided is channelled for productive purposes. It should not be assumed that greater agricultural credit envisaged under the Programme is meant merely for distribution among the cultivators. On the contrary, it is meant mainly to help the cultivators to help themselves by increasing agricultural production. Thus, the need for increasing production is the first condition for obtaining such loans.

An important aspect in respect of the Package Programme to be considered is that it is not merely a programme for providing supplies. There may be a tendency to assume that because there is shortage of essential supplies, such as fertilizers, the mere increase in such supplies will be adequate to raise the agricultural production. It is true that providing the full supplies in a favourable area in a period of shortage must increase production and it should be regarded as a part of the Programme. But, even if all supplies are met and if such supplies are not utilised in a scientific manner, there would be some ceiling to production even under such conditions.

It is only the combination of labour and perseverance with science and technology that breaks the barriers of such ceiling and leads to progressively increasing yields. It has already been acknowledged that in advanced countries through the application of scientific technology, agricultural production has now been raised to such levels that these countries are facing more with the problem of surplus.

A favourable situation has been provided in the district by the Package Programme for a large number of scientific demonstrations on cultivators fields. This gives an opportunity and a challenge to all the scientific institutions to channelise results of approved research for productive purposes through the facilities being provided in the districts.

Now it is the cultivator who will give up his traditional practices and it is he who will accept new methods and ideas. But while we may know that certain scientifically tested operations are superior to the cultivator's traditional practices, we must remember that he has to way of knowing it. Therefore, the principal problem to discover ways is to get the cultivator interested in changing his ways of living and making a living standard. We must find ways of motivating him to increase his outpût of foodgrains.

It is obvious that an appeal to the cultivator to produce more is not enough. He must be motivated by stimulating his interest in better living conditions. He must be convinced that by increasing his production he can increase his overall economic position and thus be able to buynthings he presently wants but cannot have them.

This calls for an intensive programme of education. Only through education we will be able to make people face their problems smoothly and to show them that remedies are available. Only through education we will be able to make these cultivators want to improve their living conditions, and only when they want to improve their living conditions they will put forth personal, family, and group effort to make the Programme succeed.

Finally, it is only after people have successful experience with a new way of living that it can become a part

of their own way of life. Speaking in larger terms, this is ultimately the true goal of the Package Programme. The emphasis is on increasing food production, but this is not an end in itself, rather it is a means to creating for the people a higher and more satisfactory standard of living.

She success of the Package Programme depends upon the determination of the personnel to make it succeed, the ability to innovate the skill in solving problems as quickly as they are created, and willingness to act as participants in a fully co-ordinated programme, are the only forces which can support this Programme.

It is important to note that the Package Programme cannot stand in isolation. It must be supported by an alround development of agriculture as envisaged in the Third Five Year Plan. It must be strengthened by better and broader research, by better education in schools, agricultural colleges, and universities, and by increased and more efficient production in the industries which support agriculture.

India is seeking a break-through inf food production and it is the package programme which offers the opportunity for such an advance. But if it is to succeed, every one connected with the programme has a job to do. It includes, the village level worker, the block, district, state and the centre staff, and the people in public and private sector industries associated with production and distribution of

food. If all work together the Programme will go ahead.

A necessary step is the development of improved methods for the transfer of technical and managerial skills from the researcher to the cultivator. If the cultivator is to increase his production, it is indispensable that he learn and apply technical and managerial skills. And it will be the duty of the personnel involved in the Package Programme to teach these skills.

The Package Programme requires dynamic and integrated planning and action. As India's resources of fertilizers, pesticides, quality seeds, and other farm production requirements are very much limited by the lack of foreign exchange and by the limits on indigenous manufacture, the only way to maximise production is to allocate the available scarce resources to the more responsive production units.

In the ultimate analysis all production is through individual cultivators. Hence, whatever done should be such as to assist the key man, the cultivator, to get his means of production in time and to bring science and technology to his door step to enable him to increase his efforts to create more wealth from the land.

B I B L I O G R A P H Y

BOOKS:

1. Baue, P.T. — "Indian Economic Policy and Development", Allen & Unwin, London,1961.

2. Baum,E.L. and others — "Capital and Credit Needs in a Changing Agriculture", The Iowa State University Press, Iowa, U.S.A.,1961.

3. Bishop, C.E. and Toussaint, W.D. — "Introduction to Agricultural Economics Analysis", Toppan Co., Ltd.,Japan,1959.

4. Boserup, Easter. — "Conditions of Agricultural Growth"- the Economics of Agrarian Change under Population Pressure", Allen and Unwin, London,1965.

5. Burns, W. — "Technological Possibilities of Agricultural Development" in India",Supdt.,Govt. Printing, Lahore,1944.

6. Clark, Colin & Haswell, Margaret. — "Economics of Subsistence Agriculture", Macmillan & Co.,London, 1964.

7. Cohen, R.L. — "Economics of Agriculture", Cambridge University Press,1951.

8. Daniel & Alice Thorner. — "Land and Labour in India", Asia Publishing House, Bombay,1962.

9. Davison, J.R. & others. — "Productivity and Economic Incentives", Allen & Unwin,London, 1958.

10. Desai, D.K. — "Increasing Income and Production in Indian Farming", Indian Society of Agricultural Economics, Bombay, 1963.

11. Eicher, Carl and Witt, Lawrence. — "Agriculture in Economic Development", McGraw Hills, New York, 1964.

12. Etienne, Gilbert. — "Studies in Indian Agriculture", Oxford University Press,1968.

13. Firth, Raymond and Yamay, B.S.	"Capital, Saving and Credit in Peasant Societies, Studies from Asia, Ocenia, the Caribean and Middle America", Allen & Unwin, London, 1964.
14. Gadgil, D.R.	"Planning and Economic Policy in India", Asia Publishing House, Bombay, 1965.
15. Granott, A.	"Agrarian Reforms, Kiel, 1956.
16. Gregory, Theodore.	"India on the Eve of the Third Five Year Plan", The Associated Chambers of Commerce of India, Calcutta, 1961.
17. Heady, Earl, O.	"Agricultural Policy under Economic Development", Iowa State University Press, U.S.A., 1962.
18. -Idem-	"Agricultural Production Functions", Iowa State University Press, U.S.A., 1962.
19. -Idem-	"Economics of Production and Resource Use", Prentice Hall, New Delhi, 1964.
20. Heady, Earl, O. and Jensen, Harold R.	"Farm Management Economics", Prentice Hall, New Delhi, 1964.
21. Howard, A.	"Crop Production in India", Oxford University Press, London, 1924.
22. Joseph, S.C.	"Food Policy and Economic Development in India", Allied Publications, Bombay, 1961.
23. Kenny, John.	"Intensive Farming in India", Higginbotham & Co., Madras, 1912.
24. Kumar, L.S.S. and others.	"Agriculture in India", Asia Publishing House, Vol. Bombay, 1963.
25. Lewis, John, P.	"Quiet Crisis in India, Bombay.

26.	Malenbaum, Wilfred.	"Prospects for Indian Development", Allen & Unwin Ltd., London, 1962.
27.	Mandal, G.C.	"Studies in the Problem of Growth of a Rural Economy", World Press, Calcutta, 1961.
28.	Neale, Walter C.	"Economic Change in Rural India", Land Tenure and Reform in Uttar Pradesh, 1800-1955; Yale University Press, 1962.
29.	N.C.E.A.E.R.	"Long-Term Projections of Demand for and Supply of Selected Agricultural Commodities", 1960-61 to 1975-76", New Delhi, 1962.
30.	Pande, J.K.	"Improved Agricultural Practices in U.P.", Rabi Survey of 1961-62, Directorate of Eco. and Statistics, U.P., 1964.
31.	Pugh, B.M. and Dutt, C.P.	"Principles and Practices of Crop Production in India", Part II, , Agricultural Institute, Allahabad, 1940.
32.	Ram Krishan.	"Gross-roots of Agriculture and Community Development Programme in India", Allied Publications, Bombay, 1966.
33.	Rao, C.H.Hanumantha.	"Agricultural Production Functions, Costs and Returns in India", Institute of Economic Growth, Asia Pub.House, Bombay, 1965.
34.	Reddaway, W.B.	"The Development of Indian Economy", George Allen & Unwin, Ltd., London, 1963.
35.	Rosensten-Roden, P.N.	"Capital Formation and Economic Development", George Allen & Unwin, Ltd., London, 1964.
36.	Sen, S.R.	"The Strategy for Agricultural Development and other Economic Policys, and Planning", Asia Publishing House, Bombay, 1962.

37. Sen, B. "Indian Land Systems and Land Reforms", Peoples Publishing House, Delhi, 1955.

38. Singh, Baljit and Misra, Shridhar. "A Study of Land Reforms in Uttar Pradesh", Research Programmes Committee, Oxford Book Co., New Delhi, 1964.

39. Sinha, S.P. "Indian Agriculture", Kitab Mahal, Allahabad, 1965.

40. Stisser, Reinhold. "Problems of India's Economic Development", Druck: Schmidt & Klaunig, Kiel, 1958.

41. Streeten, Paul and Lipton, Michael. "The Crisis of Indian Planning" - Economic Policy in the 1960s", Oxford University Press, London, 1968.

42. Tara Shukla. "Capital Formation in Indian Agriculture", Vora Publications, Bombay, 1965.

43. Whetham, Edith, H. "The Economic Background to Agricultural Policy", Cambridge University Press.

REPORTS:

44. Agricultural Development - Problems and Perspectives", Department of Agriculture, Ministry of Food and Agriculture, Government of India, April, 1965.

45. Agricultural Prices in India", Ministry of Food and Agriculture, Government of India, New Delhi, 1962.

46. All India Rural Credit Survey Report of the Committee of Direction, Vol. II, The General Report, R.B.I. Bombay, 1954.

47. All India Congress Committee Report of the Congress Agrarian Reforms Committee", Government of India, New Delhi.

48. Conference Report on IADP of the First Training Course for Key Personnel of the Programme, Govt. of India, Min. of Food and Agriculture, Directorate of Extension, New Delhi.

49. Conference Report on IADP of the Second Central Training Course, Govt. of India, Ministry of Food and Agriculture, Directorate of Extension, New Delhi,1961.

50. Conference Report on IADP, Annual Central Conference of the Key Personnel, Govt. of India, Ministry of Food and Agriculture,New Delhi, 1962.

51. Crops Planning and Production, National Planning Committee, Government of India, Vora & Co., Publishers, Bombay, August,1948.

52. "Defects in Agrarian Structure as Obstacles to Economic Development", United Nations, Department of Economic Affairs, New York, 1951.

53. "Economic Stragegy and the Third Plan", Indian Statistical Institute, 1963.

54. "Farm Planning and Management, papers presented at the F.A.O. Development Centres on Farm Planning and Management, Ministry of Food and Agriculture, Government of India, Delhi,1959.

55. "First Five Year Plan, Planning Commission, Government of India, New Delhi,1951.

56. "Second Five Year Plan, Planning Commission, Government of India, New Delhi,1956.

57. "Third Five Year Plan, Planning Commission, Government of India, New Delhi,1961.

58. Fourth Five Year Plan", a draft outline, Planning Commission, Government of India, 1968.

59. Food and Agricultural Price Policies in Asia and the Far East, By F.A.O., (Bankok) United Nations,1958.

60. Foodgrains Enquiry Committee Report, Government of India, November,1957.

61. Implementation of Land Reforms, A Review by the Land Reforms Implementation Committee of the National Development Council, Planning Commission, New Delhi,August, 1966.

62. National Food Reserve Policies in Underdeveloped Countries, F.A.O., United Nations, (Rome),1958.

63. "Package Programme, Facts and Figures", Aligarh District, U.P." Directorate of Extension, Ministry of Food and Agriculture, New Delhi.

64. "Problems in Plan Implementation", Government of India, Ministry of Information and Broadcasting, New Delhi, April,1964.

65. "Progress of Land Reforms", Planning Commission, Manager Publications, New Delhi,1963.

66. Progress in Land Reforms, Second Report, United Nations, New York,1956.

67. "Reports of the Committee of the Panel on Land Reforms", Planning Commission, Government of India,New Delhi.

68. "Report of the Indian Delegation to China on Agricultural Planning and Techniques", India,1956.

69. "Report on IADP, Expert Committee on Assessment and Evaluation,Ministry of Food and Agriculture, Government of India, New Delhi,1961-63.

70. "Report on IADP, ECAE,New Delhi,1960-65.

71. "Report on IADP, ECAE,New Delhi,1966-67.

72. "Report on India's Food Crisis and Steps to Meet It", Agricultural Production Team,Ford Foundation,Govt. of India, Ministry of Food and Agriculture,New Delhi, April,1959.

73. "Report of the United Provices Zamindar Abolition Committee,Voll,U.P., Allahabad, 1948.

74. "Review of the First Five Year Plan", Planning Commission, New Delhi.

75. "Royal Commission on Agriculture in India",Govt. of India,Bombay,1928.

76. "Studies in Agricultural Economics", Government of India, Ministry of Food and Agriculture,Directorate of Statistics, New Delhi,1966.

77. "Study of the Problems of Minor Irrigation", Programme Evaluation Organization,Planning Commission, Government of India, 1961.

78. "The Efficacy of IADP, Wheat Demonstration in Aligarh District" U.P.,Agricultural Economics Research Centre University of Delhi.

79. "Third Plan Mid-Term Appraisal", Planning Commission, Government of India, 1963.

80. United Nation Economic Bulletin for Asia and the Far East,Vol.XI,No.1, June,1960.

81. Idem, Vol.III,No.3, November,1957.

82. Uttar Pradesh Govt. Gazette, Extraordinary,June,1949.

83. U.P. Zamindari Abolition and Land Reforms Act, Govt. of Uttar Pradesh,1951.

84. Why Labour Leaves the Land", I.L.O.,Geneva,1960.

JOURNALS AND WEEKLIES: (From 1960 onwards)

1. Agricultural Situation in India,

2. Indian Journal of Agricultural Economics,Bombay.

3. Economic and Political Weekly,Bombay.

4. Mainstream,

5. Reserve Bank of India Bulletin, Bombay.

APPENDIX - I

L I S T O F T A B L E S

1. Number and Percentage of the Cultivators showing their Status.

2. Incidence of Farm Production Plans on the Cultivators.

3. No. and Percentage of Cultivators received financial assistance from Co-operatives and other agencies.

4. No. and Percentage of Cultivators provided various inputs by the Co-operative Societies.

5. No. and Percentage of Cultivators visited Demonstration Plots and their consideration on the profitability of farming.

6. No. and Percentage of Cultivators having Live-stock facilities.

7. No. and Percentage of Cultivators having Irrigation facilities.

8. No. and Percentage of Cultivators able to utilise inputs and draw benefits through Package Programme.

(All the above tables are prepared for the four Sample Blocks, i.e., Dhanipur, Lodha, Jawan and Sasni and one consolidated table of all the blocks for the above number of items.)

APPENDIX - II (QUESTIONNAIRE)

IMPACT OF THE PACKAGE PROGRAMME ON AGRICULTURAL FAMILIES IN ALIGARH DISTRICT.

S.Nos. Demography

A - 1. Name of the Block: 2. Village
3. Name of the Cultivator:
4. Status of the Cultivator: Bhumidar/Sirdar/Asami.
5. Area of land held in acres/bighas:(i)Kachcha (ii)Pacca

B - Farm Production Plans and Scientific Demonstrations:

1. Do you have any Farm Production Plan? Yes/No
2. Do you apply inputs according to the Plan? Yes/No
3. Do you select the crops according to the Farm Plan? Yes/No
4. Is the Farm Plan beneficial in increasing the yield? Yes/No
5. Have you visited any Demonstration Plot? Yes/No
6. Do you consider farming more profitable after seeing the Demonstration Plots? Yes/No
7. Will you be able to increase the yield of your crops if all the inputs are made available to you? Yes/No
8. Can you raise three or four crops in a year on the availability of inputs? Yes/No

C - Financial and other facilities:

1. Are you a member of any co-operative society? Yes/No
2. Do you get the loans from the societies in time? Yes/No
3. Do you take loans from other sources too? Yes/No
4. Are you getting sufficient:-
   (i) Fertilizers Yes/No
   (ii) Manures Yes/No
   (iii) Seeds Yes/No
   (iv) Insecticides, and Yes/No
   (v) Improved

   from the co-operative societies according to the Farm Plan?
5. Do you spend loans on items other than agriculture? Yes/No
6. Do you pay back the loans regularly? Yes/No
7. Are you getting enough water from Canal or other sources? Yes/No
8. Do you still depend on rains? Yes/No
9. Do you get inputs on higher rates? Yes/No
10. Have you got any improved quality of Cows, Bulls, Buffaloes, etc? Yes/No
11. Have you got any kind of assistance for this purpose from the Package staff? Yes/No
12. Are you satisfied of the supplies of inputs through Package staff or Co-operatives? Yes/No.